DEMAND FOR
VOLUNTARY COUNSELLING AND TESTING
AND ANTIRETROVIRAL TREATMENT PROGRAM
AMONG

GENERAL POPULATION,
SEX WORKERS,
INJECTING DRUG USERS AND
MEN HAVING SEX WITH MEN
IN THAILAND

FINAL REPORT

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Executive Summary

I. Background

In the context of universal access to Anti-retroviral Therapy launched in 2003, The national program on HIV prevention and control in Thailand wishes to understand the demand for Voluntary Counselling and Testing (VCT) for HIV/AIDS, as VCT is one of the key entry point for knowing HIV status of individual so that early enrolment to ensure good health outcome is possible. In such context, a major project funded to the International Health Policy Program, by ASEM in 2005 to assess demand for VCT among general population, and three other risk groups namely sex workers, men having sex with men and injecting drug users. This understanding is policy relevant, in such a way that design of VCT program would ensure the real demand across different groups of population.

II. Objectives

This study aims to assess the perception on and demand for VCT and ART program among (1) general Thai population, (2) sex workers, (3) injecting drug users (IDU), (4) men having sex with men (MSM), through the assessment of self reported history, perception and experiences towards VCT, their demand profile and factors associated with demand for VCT and ART

III. Methods

1. General population

In each of the four geographical regions (Central, North, Northeast and South), one province with low and the other with high prevalence among pregnant women from June 2003 national sero-sentinel survey were selected, see **table 1**. Five top high and five top low prevalence provinces were listed and one was purposively selected, namely Chiangmai and Tak for the North, Udonthani and Kalasin for the Northeast, Rayong and Prathumtani for the Central and Trang and Suratthani for the South.

Table 1 HIV prevalence in pregnancies, sero-sentinel 2003

Region average	Five highest prevalence	Five lowest prevalence
North 1.53%	1. Petchaboon 3.42, **2. Chiangmai 2.97** 3. Pichit 2.83 4. Uthaitani 2.59 5. Chiangrai 2.4	1. **Tak 0.94**, 2. Nakorn Sawan 0.58, 3. Nan 0.51 4. Kamphaenpetch 0.22 5. Phrae 0.00
Northeast 1.18%	1. Chaiyaphoom 2.06, 2. Amnatcharoen 1.93 3. Sisaket 1.91, **4.** Yasothorn 1.89, 5. **Udonthani 1.76**	1. Nongbualamphoo 0.69, 2. Sakhonnakorn 0.65, 3. Mahasarakham 0.64 4. **Kalasin 0.56**, 5. Surin 0.41
Central 1.36%	1. **Rayong 3.13**, 2. Chainat 3.13, 3. Angthong 2.97, 4. Lopsuri 2.03, 5. Samutprakan 1.62	1. Nonthaburi 0.85, 2. Prachinburi 0.84, 3. **Prathumtani 0.66**, 4. Nakorn Nakok 0.65, 5. Singburi 0.42
South 1.06%	1. Phuket 2.43 2. Nakorn Sithammarat 2.31 **3.** Ranong 2.11 4. **Trang 1.72** 5. Pang Ngar 1.38	1. Songkhla 0.78 2. **Suratthani 0.64** 3. Narathivat 0.50, 4. Krabi 0.34, 5. Yala 0

Source: Bureau of Epidemiology, MOPH 2003
Note: the bold province were sample province, average national prevalence 1.3%

Health and Welfare Survey conducted on an annual basis by National Statistical Office (NSO) is a national represented household survey. The survey enumerated all members of more than 30,000 households. Face to face interview was conducted in six consecutive months in January to June 2005. The index households interviewed by HWS field staff in the eight selected provinces in May 2005 was revisited by the interviewers of this project. In these households, all adult members age 18-60 years were face to face interviewed by the trained interviewers who are health workers recruited from these provinces. Three thousands, two hundreds and eights samples were cluster randomly recruited from 8 purposive selected provinces.

The field work was conducted in May 2005, data were collected by means of face to face interview questionnaires. The field workers were recruited and trained by the researcher team to minimize discrepancies and errors. Field supervision by 4 teams of researcher provides internal quality control of the project.

2. Sex workers

We applied the same eight provinces where the general population were selected. As there is no clear sampling frame for the selection of sex workers due to is illegality. In these provinces, potential workplaces where implicit and explicit sex services are provided such as sauna and massage parlours, karaoke, night clubs and brothels were visited, female workers who are willing to participate in the face to face interviewed were recruited. The study was carried out from May to August 2005.

3. Injecting drug users

This cross-sectional study was conducted between May to August 2005, at the time when the government still enforced a policy on cracking down illicit drug. There is no clear sampling frame for IDU. The researchers, having involved in IDU studies for several years, built up and familiar with IDU communities, had decided to apply purposive multiple sites where ample number of IDU cases are available. In the north region, Chiangmai province was selected, and cases were identified from the communtiy. In central region, Bangkok and Prathumtani province were selected and cases were IDU in Drug Treatment Center. In the south region, Surattani, Trang and Satun provinces were selected, and cases were identified from community.

The inclusion criteria for case selection includes the following (1) either current or ex-users of injecting drug, (2) had ever or never taken VCT services, (3) not a member of ART Program, (4) wiiling to co-operative in this study. Samples who were willing to participate in this study were verbally informed thoroughly on the objective and methods of the study, and signed the informed consent, with a clear statement of confidentiality and anonymity undertaking by researchers. Selected samples were face to face interviewed using a structured questionnaire. The questionnaire was developed by the research team, tested for content validity by five experts and pretested by interviews with 30 IDU samples from the south and Bangkok.

4. Men having sex with men

This cross-sectional study was conducted in 3 regions, the north, the south and the central regions between May and August 2005. One province was purposively selected from each of the three regions. Two hundred and ninety eight MSM who worked or clients of entertainment establishments, such as night clubs, massage parlours and karaoke, were selected to respond to a face to face questionnaire interview by trained interviewers. For anonymity this study decided not to disclose the names of the sample province.

5. Ethical clearance

This study was approved by Ethics Committee of Ministry of Public Health. The four groups of respondent agreed to participate in the study on a voluntary basis, and had signed a consent form ensuring anonymity and confidentiality.

6. Samples

The total samples for the four groups were described in **Tables 2.1 to 2.4**. The 3,208 is representative adult population in May 2005 in eight provinces. There were the total of 782 purposive samples of female sex workers, 361 IDU of which 93% male and 7% female, and 293 MSM. Due to the purposive sampling nature, across three high risk groups, the results does not reflect the whole group. Generalization of the results from purposive sampling is taken with care.

Table 2.1 General population

General population	Central	North	Northeast	South	Total
Total samples	760	813	724	911	3,208
Average age	37.4	39.8	44.5	38.7	40.0
Male	47.3	43.3	44.3	46.4	45.4
Female	52.7	56.7	55.7	53.6	54.6

Table 2.2 Female sex workers

Female sex workers	High prevalence	Low prevalence	Total
Total samples	408	374	782
Average age	29.2	28.3	28.8
Min / Max age	18/52	18/53	18/53

Table 2.3 Injecting drug users

IDU	Urban	Rural	Total	
Total samples	188	173	361	%
Male	167	167	134	93
Female	21	6	27	7

Table 2.4 Men having sex with men

MSM	North	Central	South	Total
Total samples	102	114	82	293
Average age	22.5	23.3	26.7	23.8
Max / Min age	17/ 50	16 / 35	16 / 45	16 / 50

III. Results

1. General population

More than 50% of Thai population knew about VCT, 31% had ever tested. The most common reason for testing is during health examination, as job requirement and self directed, except in women, pregnancy is the most common reason for VCT due to a successful MOPH program for Prevention of Maternal to Child Transmission. Twenty percents of Thai population planned to take VCT next 12 months. Availability of public funded free ART program stimulates the uptake of VCT, as 63% of Thai population would take, 23.4% would not and 13.5 un-decisive.

Some 29% of population would take if VCT is free. The preferred choices of VCT provider is district hospital in their domicile area, due to easy-to-access. Thai population trusted more public than private in keeping confidential the test results, and also had positive attitude towards a hypothetical policy of offering VCT to all patients in public sectors with a freedom of opting out for not testing, 90% agreed with this policy.

64% of Thai population knew about ART, and had positive views towards ART of prolong their life, half of the population knew about the public funded free ART program.

Some proportion of the Thai population reported to have sex with sex worker (1.6-2.9%) in the last 12 months. Condom use rate with sex workers is slightly higher than when having sex with non-spouse regular sex partners, 76% and 72% use all the time.

On willingness to pay for VCT, evidence indicates that people in the poorest North-eastern region are most sensitive to price. The percentage of willingness to pay sharply decreased when price increased. People in the more affluent Central region are less price-sensitive.

The median of the maximum price people are willing to pay for VCT varied according to the initial given figure, except for the North-eastern people who reported 100 Baht per VCT across all levels of initial given price

2. Sex workers

The sex workers had some experiences in knowing someone close to them who have HIV/AIDS, 12.5% were neighbours, 10.6% were relatives, 2.3% were members of their family.

High proportion of them 74% knew about VCT, 95% of them had ever tested mostly required by the workplace or their own initiatives. Very high proportion, 81% of them had tests in the last 12 months, mostly through mobile VCT at the workplace. Sex workers in higher prevalence areas had much higher proportion (97%) intended to test in the next 12 months, due to perceived high risk of infections and required by their workplaces. They have more trust in public VCT providers than public. The preferred VCT providers were provincial or district hospitals. A very high proportion of sex workers (85%) agreed with the hypothetical government policy of offering free VCT to all clients in government hospitals with a right to refuse to be tested (0pt-out).

Good knowledge on ART was revealed, 63% of them knew about ART, 83.2% believed ART helps prolong survival, half (52%) knew about the publicly funded free ART program. The availability of public funded free ART program stimulated the demand for VCT, as 89% would take VCT. Also there was positive attitude towards ART program, if they become infected, 97% would enrol in the free ART program.

When having sex with male clients in the last 12 moths, very high proportion, 89% use condoms all the time, 10% used sometime, and 2% did not use. The reasons for not using condoms

confirms other studies. When having sex with not regular partners, the proportion of use condom all the time is lower (67%), used sometime (21%) and never use (12%). When having sex with regular partners, the proportion of use condom all the time is much lower (37%), used sometime (17%) and never use (46%). There is a consistent reduction in the use of condoms all the time from male clients, to non-regular partners to regular partners. In such case, there is much room for further improvement for safer sex practices through quality VCT.

The percentage of sex workers who are willing to pay consistently decreased when the hypothetical price increased, higher income and higher perceived risk of HIV infections were less sensitive to price changes than the lower income and less or no chance of HIV infections. The median maximum willingness to pay ranges

3. Injecting drug users

Half of IDU samples knew their friends were HIV infected, 13% were their neighbors and 13% were close relatives, 8% were members of their own family. In addition, 20% of IDU samples reported they were already infected with HIV.

These experiences coupled with being IDU, they should have very high awareness of HIV infection, but very disappointing evidence reveals that our samples are still at risk of HIV infection either transmit virus to and from others. Very high proportion, 69% of IDU reported sharing needles with their peers. And also practice unsafe sex, as only 50% used condoms when having sex with non-commercial sex workers and non regular partners, and 14% not using condom when have sex with commercial sex workers.

Sharing syringes and needles, and unsafe sex practices are the main route of HIV transmission, and that policy and national program efforts should be given to penetrate into this specific group of high risk population. Drug treatment centre providing Methadone services are the most important entry point for integrating effective VCT services, as trust is already very high for services provided by public sector. Intention to VCT services is high, 44% would take up VCT in the next 12 months and preferred providers are drug treatment centre and district hospitals. Opportunity is there to integrate VCT services in drug treatment centre.

High proportion of samples (85%) knew about ART and had positive attitude that ART would prolong their life if infected. Also vast majority, 76% knew about public funded free ART program is available. The availability of free ART program stimulates their demand for VCT.

Willingness to pay for VCT is price sensitive, the higher the price the lower the willingness to pay for. The range of willingness to pay was 100 to 1,000 baht, with a median of 200 to 400 Baht per test.

4. Men having sex with men

Our samples are MSM who work as employee and clients in entertainment centres. Their knowledge of HIV and AIDS were quite high. However, only about 70% of them were using condom when had sex with men and even lower when having sex with women (44.3%). In addition, reasons for not using condom were that they did not want to use, or could not access to condoms, or they thought they had no risk of infections.

Less than 70% of them knew about VCT while 72.1% were aware of ART, and want to enrol in ART program if they were infected. Almost 80% of MSM intended to take VCT services in the next 12 months for the reasons of having high risk (56.6%). Some MSM will not take VCT for fear of stigmatization, especially in the South, this is as high as 25%.

MSM were willing to pay up to 800 baht (median of 500 baht). Consequently, the availability of public funded free ART program stimulates MSM to take VCT. We found that older MSM were more likely to take VCT than the younger group. Association was found among income, marital status and MSN had sexual intercourse with female with intension to get VCT.

IV. Policy recommendations

1. General population

1. Opportunities arise from this study to improve the quality and standardize HIV testing in private setting perhaps without counselling and not on a voluntary basis, for example as a requirement for job application, insurance application, general health examinations. These coercive testing should be discouraged and should comply with the voluntary nature with quality pre and post test counselling.
2. The PMTCT is the major venue of VCT, there is an annual 0.8 million birth cohort, while antenatal care covers more than 95% of all births, the sustaining high coverage and enrolment of PMTCT by all pregnancies would fostering prevention and safe sex behaviour among the couples.
3. Opportunities also arise to improve the request for HIV testing in all clinical encounters, for example Tuberculosis and meningitis patients and suspects of HIV co-infections. Pre and post-test counselling should be provided.
4. Policy of offering free VCT to all population must be decided carefully take into account prevalence, cost of laboratory services, and long term budget impact. In a low prevalence setting, expenditure especially on HIV laboratory test would be too expensive and unaffordable, however, counselling may also cost significantly, in view of scaling up training of counsellors. In addition, a variety of policy can be designed, for example, the counselling alone without testing for low and no risk and testing for the higher risk groups is more cost effective. However, this requires quantitative and full flesh study.
5. The strengths of public VCT providers in the public trust in keeping confidential the results of HIV test should be maintained. District hospital, the most preferred choice for VCT, due to easy to access (close to client services), play a significant hub in provision of quality VCT services. More than 700 functional district hospitals, covers all districts, are the strong platform for scaling up VCT.
6. Evidence indicates that the availability of publicly funded free ART program stimulate demand for VCT in general population. In the scaling up of VCT for early recruit of ART enrolee, the publicity of ART program would automatically stimulate the demand for VCT. There is a need for the national program to be prepared on supply side capacity strengthening to accommodate rapid increase in workload from VCT.

2. Sex workers

1. Provision of an easy to access, quality VCT service, ensure confidentiality and affordable price of VCT would stimulate the rapid scaling up of VCT services and the consumption among this group who engaged in high risk occupations. Service among this group should be provided with care due to double stigmatization, first the engagement in sex business either directly or indirectly and second HIV infection. The common practice among this group is mobile services of counselling and collecting samples from the work sites and post test counselling in the work sites.

2. If the Thai government cannot offer free VCT to all general population due to fiscal constraint, there is a need for special considerations to provide free VCT to this group due

to the positive externality of quality counselling to maintain their safe sex practices and early recruitment to ART program if very unfortunately they are infected.

3. However, VCT model for sex worker should emphasize on changing their sexual risk behaviour and promote better safe sex practice especially with their non-regular and regular partner.

3. Injecting drug users

1. This high risk population should be informed of their HIV status through VCT, and counselling should aim to modify their behaviour by not sharing syringes and needles and safe sex practice.

2. VCT services should be an integral part of Drug Treatment Centres, or available in all district hospitals where IDU would easily access.

3. Due to positive externality in the reduction of HIV transmission, VCT services for IDU should be provided free and subsidized by the government .

4. Men having sex with men

1. Government policy, health education program should concertedly aim towards minimizing sex behaviours that are at risk of HIV infection. Efforts should be given to empower the MSM to know their own HIV status through the use of VCT services. If they are not yet infected, counselling to keep on safe sex practices. If some of them are infected of HIV, early enrolment into ART program, for early intervention of ARV, through regular monitoring of CD4 counts. Special attention of ART program is to provide counselling and sex behaviour changes HIV positive who are on ARV in order to prevention infections to their sex partners.

2. If the Thai government cannot provided free VCT to all population, this sub-group of high risk MSM should be provided with free VCT due to its high risk of HIV transmission and positive externalities from quality VCT. Not only minimum financial barriers to VCT, the confidentiality should be well aware of in the design of the program.

DEMAND FOR VOLUNTARY COUNSELING AND TESTING AND ANTIRETROVIRAL TREATMENT PROGRAM AMONG GENERAL POPULATION IN THAILAND

I. Introduction

The first HIV/AIDS case was reported in Thailand in 1984. Since then the situation of HIV/AIDS worsen during the past three decades. New information and knowledge were obtained from experiences with the disease and widely used to combat this significant public health problem. Measures including prevention and control of the disease and cares of patients were further developed and implemented over time. Among preventive measures, the use of condoms seemed to provide impressive results. However, as the epidemic expanded from homosexual to a large extend heterosexual, and therefore spread from a specific group to the general population and from adults to teenagers. Since the access by teenagers to condoms was not as good as it should be, HIV voluntary counseling and testing (VCT) seem to be an alternative effective measure.

Based on evidences reported by several observational and controlled studies, there is currently a consensus about the efficacy and cost-effectiveness of the VCT intervention for HIV prevention and care. VCT was advocated as major component of a comprehensive national AIDS control program activities. Major roles recognized for VCT include enabling VCT clients to cope and make personal decision related to HIV/AIDS, assisting VCT clients to initiate and maintain safe sex behaviors, serving an early referral and entry point to HIV care and support services, and to other prevention services, including family planning and helping to combat stigma and discrimination in the community.

In the view of mature HIV/AIDS epidemics, and having achieved quite a successful preventive program whereby a reverse epidemic trend was observed since 1998, the Thai government had made a decisive decision, in early 2002, to adopt a universal access policy toward antiretroviral therapy (ART) for people living with HIV/AIDS (PLWA). This policy decision was made in the context of the availability of local produced low cost generic ARV by the Government Pharmaceutical Organization (GPO), and a strong public health system with high geographical coverage to deliver effective ART program.

In the context of universal access to ART, the policy objective is to ensure early enrollment by PLWA, at the opportune time of CD4 count around 200 cells. Clinical outcome of late arrival to ART is poor due to opportunistic infections and very weak immune systems of the patients. VCT is one of the key entry points for the recruit of enrollees into the ART program. It is then essential to understand the demand for VCT among the general population and other risk groups. Results from such study are crucial to guide national program managers on proper design and improve program effectiveness in particular to stimulate VCT demand for early recruitment.

II. Objectives

This study aims to assess the perception on and demand for VCT and ART program among general Thai population, through the assessment of self reported history, perception and experiences towards VCT, their demand profile and factors associated with demand for VCT and ART

III. Methodology

Three thousands, two hundreds and eights samples were cluster randomly recruited from 8 purposive selected provinces. In each of the four geographical regions, one province with low and the other with high prevalence of HIV/AIDS infection rates were selected. Prevalence is measure by HIV infection prevalence among pregnant women from the sero-sentinel survey in June 2003, see **table 3.1**. Five top high and top low prevalence provinces were listed and one was selected from the list.

Table 3.1 HIV prevalence in pregnancies, sero-sentinel 2003

Region average	Five highest prevalence	Five lowest prevalence
North 1.53%	1. Petchaboon 3.42, **2. Chiangmai 2.97** 3. Pichit 2.83 4. Uthaitani 2.59 5. Chiangrai 2.4	1. **Tak 0.94**, 2. Nakorn Sawan 0.58, 3. Nan 0.51 4. Kamphaenpetch 0.22 5. Phrae 0.00
Northeast 1.18%	1. Chaiyaphoom 2.06, 2. Amnatcharoen 1.93 3. Sisaket 1.91, **4.** Yasothorn 1.89, 5. **Udonthani 1.76**	1. Nongbualamphoo 0.69, 2. Sakhonnakorn 0.65, 3. Mahasarakham 0.64 4. **Kalasin 0.56**, 5. Surin 0.41
Central 1.36%	1. **Rayong 3.13**, 2. Chainat 3.13, 3. Angthong 2.97, 4. Lopsuri 2.03, 5. Samutprakan 1.62	1. Nonthaburi 0.85, 2. Prachinburi 0.84, 3. **Prathumtani 0.66**, 4. Nakorn Nakok 0.65, 5. Singburi 0.42
South 1.06%	1. Phuket 2.43 2. Nakorn Sithammarat 2.31 **3.** Ranong 2.11 4. **Trang 1.72** 5. Pang Ngar 1.38	1. Songkhla 0.78 2. **Suratthani 0.64** 3. Narathivat 0.50, 4. Krabi 0.34, 5. Yala 0

Source: Bureau of Epidemiology, MOPH 2003
Note: the bold province were sample province, average national prevalence 1.3%

Health and Welfare Survey (HWS), conducted on an annual basis by National Statistical Office (NSO) is a national represented household survey. The survey enumerated all members of more than 30,000 households. Face to face interview was conducted in six consecutive months in January to June 2005. The index households interviewed by HWS field staff in the eight selected provinces in May 2005 was revisited by the interviewers of this project.

There are altogether 203 enumeration areas (including urban blocks and rural villages) and 2,784 households, see **table 3.2**. In these households, all adult members age 18-60 years were face to face interviewed by the trained interviewers who are health workers recruited from these provinces.

Table 3.2 Sample households in HWS 2005 by NSO

Region	Province	Enumeration Area: no of Urban blocks and villages	Total households	Total population enumerated
North	Tak	20	276	552
	Chiangmai	28	384	768
Northeast	Udontani	20	276	552
	Kalasin	28	384	768
Central	Prathumtani	23	312	624
	Rayong	28	384	768
South	Suratthani	28	384	768
	Trang	28	384	768
Total		203	2784	5568

The field work was conducted in May 2005, data were collected by means of face to face interview questionnaires. The field workers were recruited and trained by the researcher team to minimize discrepancies and errors. Field supervision by 4 teams of researcher provides internal quality control of the project.

Editing of the complete questionnaires was performed in the field by researchers who are supervisors. Data entry was done using the ScanDevet commercial computerized program. The information about general characteristics, perception, knowledge and behaviors of those investigated was assessed by statistical means and are given in a descriptive fashion as mean, standard deviation and percentage using Minitab for Window release 12.2.

IV. Results

1. General characteristic

There were 3208 samples interviewed (**Table 4.1**). The means age ranged from 37.4 to 44.5. More female than male participated in all regions. The majority of them were married (70.8-76.3%). The means of number of household members ranged 4.1 to 4.7. The presence of children aged <15 years and elderly aged >60 years was found to be highest in the northeastern region. However, there was not much variation on the number of children and elderly in each family.

On access to healthcare services, most Thai people live within 3 kilometers to primary care unit or health center owned and run by the Ministry of Public Health, and within 10 kilometers to the hospitals. The samples in the Northeast region live rather far from private services.

Table 4.1 General characteristic of general Thai samples by region

	Percentage				
	Central N=760	North N=813	Northeast N=724	South N=911	Total N=3208
Age in years (mean, SD)	37.4 (11.2)	39.8 (11.4)	44.5 (14.5)	38.7 (11.4)	40.0(12.4)
Sex					
Male	47.3	43.3	44.3	46.4	45.4
Female	52.7	56.7	55.7	53.6	54.6
Marital status					
Single	22.3	20.3	12.0	19.7	18.8
Married	70.8	71.7	76.6	73.8	73.2
Widow	3.2	3.0	7.8	2.8	4.0
Divorce	2.4	2.5	2.4	1.5	2.2
Separate	1.3	2.5	1.2	2.2	1.8
Number of household member (mean, SD)	4.3 (1.7)	4.1 (2.2)	4.7 (1.9)	4.5 (1.8)	4.4 (1.8)
Presence of child aged <15 years and/or elderly age > 60 year)	66.8	69.6	76.2	70.4	70.4
Number of child aged <15 years old (median (Q1-Q3))	1.6(0.8)	1.5(0.9)	1.6(0.7)	1.6 (0.8)	1.6 (0.8)
Number of elderly aged >=60 years old (median (Q1-Q3))	1.4(0.6)	1.3(0.6)	1.4(0.5)	1.3 (0.5)	1.3 (0.6)
Distance between residence to public primary care unit (in Km) (median (Q1-Q3))	2(1-3)	1 (1-3)	1 (1-3)	2 (1-3)	2 (1-3)
Distance between residence to nearest public hospital (in Km) (median (Q1-Q3))	7(4-12)	6 (2-10)	7 (3-20)	5 (3-12)	6 (3-12)
Distance between residence to nearest private hospital (in Km) (median (Q1-Q3))	10 (3-20)	10 (1-40)	36 (14-90)	10 (3-34)	13 (3-36)
Distance between residence to nearest private clinic (in Km) (median (Q1-Q3))	2 (1-7)	2 (1-7)	6 (1-18)	3 (1-9)	3 (1-9)

2. Experiences and perception on VCT

Experiences on VCT

Half of the Thai population had known about VCT (ranged from 49.6 to 55.9%), see **Table 4.2**. The highest percentage was found in the northeast people. Only 26% of the northeast people had been ever tested for HIV/AIDS. The median number of HIV test in the past year was highest among the northeast people (1.6 tests). The lowest was reported in the southern people (1.2 tests). Expense of blood testing for HIV/AIDS was highest among the central people (300 Baht) whereas the other regions were 200 Baht.

The number of samples had ever been tested for HIV/AIDS ranged from 9 to 17.8%. The proportion was lowest for northern Thai people (9.6%) and highest for northeastern Thai people (17.8%). The reasons of being tested differed from region to region. The most common reason for HIV testing among women is pregnancy. In the central region, the major reason for HIV testing was the requirement for job applications whereas in northern region, requirement for job applications, application to life insurance and membership of a cooperative are main reasons. In the northeast, HIV testing was initiate by their own will to know their HIV status. In the south, samples were tested as part of their general health examination.

A hypothetical question was asked if they plan to test for HIV next year, some 19-20% of samples would do so, while two thirds did not plan to do so. When asked whether the free public ART program would stimulate VCT take up, 63.1% of Thai population would take, 23.4% would not and 13.5 not decisive.

In summary, this survey indicated that around 30% of samples had ever been tested for HIV, and main reasons are pregnancy as part of a successful MOPH program for Prevention of Maternal To Child Transmission (PMTCT) 28.4%, health examinations 15%, own initiation 12.9%, requirement by job applications 11.3%, requirement for life insurance and cooperative membership 9.8%. Prior to marriage test is not common 4.5%. Opportunities arise from this study to improve the quality of these testing (either coercive e.g. job applications, or voluntary PMTCT).

Table 4.2 Blood testing for HIV/AIDS of general Thai population by region

	Percentage				
	Central N=760	North N=813	Northeast N=724	South N=911	Total N=3208
Known about VCT	49.6	52.5	55.9	55.1	53.3
Ever testing for HIV/AIDS	40.7 N=309	32.0 N=260	26.4 N=191	26.5 N=243	31.2 N=1104
Number of being blood testing for HIV/AIDS during last year (mean (SD))	1.3(0.7)	1.4 (1.4)	1.6(1.5)	1.2 (0.5)	1.3 (1.0)
Expense (in Baht) for last HIV/AIDS blood testing (median (Q1-Q2)	300(200-583)	200 (100-300)	200(150-800)	200 (30-500)	200 (157.5-500)
Reason for being tested					

	Percentage				
	Central N=760	North N=813	Northeast N=724	South N=911	Total N=3208
Self-decision	12.9	9.6	17.8	11.1	12.9
Job application	20.4	7.7	8.4	6.2	11.3
Life insurance/cooperative	8.1	23.5	6.3	0.8	9.8
Prior to marriage	4.5	4.6	4.2	4.5	4.5
Pregnancy	22.0	24.2	30.4	39.5	28.4
Health examination	11.0	14.2	14.1	21.8	15.0
Health personnel' s suggestion	1.6	2.3	2.6	1.2	1.9
Hospitalized patient	6.8	3.5	6.8	4.9	5.4
Blood donor	2.3	6.9	5.2	4.9	4.6
Others	10.4	4.6	3.1	5.8	6.2
	N=760	N=813	N=724	N=911	N=3208
Plan to be tested next year					
Tested	20.8	19.3	18.8	19.6	19.6
Not tested	66.6	65.7	60.5	63.8	64.2
Not sure	12.6	15.0	20.7	16.6	16.2
VCT as part of free public ART program					
Yes	65.3	57.1	64.8	65.2	63.1
No	22.8	28.9	19.1	22.5	23.4
Not sure	11.9	14.0	16.2	12.3	13.5

Offering VCT with opt out policy

A hypothetical question was asked on a policy of offering counseling and testing in all medical encounters by the patients in public sectors with a freedom of opting out for not testing. Most of the general Thai population had a positive attitude, 90% of samples agree with this policy, 4.4% disagree, see **Table 4.3**. However only about half of our samples (49.6-55.9%) had known about VCT (Table 4.2) and 51.5-77.0% had known about ART (Table 4.6). VCT is less well known about than ART.

Table 4.3 Acceptability of VCT of the general Thai population by regions

	Percentage				
	Central N=755	North N=810	Northeast N=716	South N=904	Total N=3185
VCT offered to all patients with opt out					
Agree	94.4	82.8	91.2	91.6	90.0
Not agree	8.6	6.0	2.5	5.3	4.4
Not sure	2.0	11.1	6.3	3.1	5.6
Willing to suggest VCT to others	74.9	76.4	84.4	82.7	79.5

Profile of demand for VCT

When asked if VCT were offered free of charge by the government, 29% (range 22.5-38.3%) of total samples were willing to be tested, see **Table 4.4**. Preferred choices of VCT provider were asked, the majority preferred VCT services provided by the district hospital in their domicile district, with the exception of the people in the central region, who preferred private hospital. The most common reason for the preferred choices was easy-to-access. Quality of VCT and that they are covered by the Universal Coverage Scheme are two other important reasons. The distance between residence and the selected health facilities ranged from 6 to 8 kilometer and the cost of transport ranged from 20 to 30 Baht. Beside that, it is also notified that a considerable number of the northeast people chose the mentioned health facilities because of 30-Baht UC scheme (17.3%), whereas the others chose because of good quality.

Table 4.4 Preferred choices of VCT among general population, by region.

	Percentage				
	Central N=194	North N=284	Northeast N=303	South N=269	Total N=1681
Willing to be tested if it is free	23.7	22.5	38.3	29.4	29.1
	N=614	N=593	N=531	N=733	N=1931
Preferred choice of VCT					
District hospital in domicile	18.4	47.6	73.4	45.2	45.4
District hospital outside domicile	1.1	3.2	0.9	1.1	1.5
Other public hospital	19.9	16.5	5.3	5.7	11.8
Regional/provincial hospital	19.9	8.1	12.2	23.9	16.5
Private hospital	29.0	14.0	2.3	13.4	15.1
Private clinic	9.8	6.1	3.4	7.6	6.9
Others	2.9	4.6	2.4	1.8	2.8
Reason for preferred choice					
Easy to access	53.1	64.6	63.5	53.6	58.2
Confidential	3.4	2.9	1.7	4.2	3.1
Familiar	2.6	2.5	0.8	3.9	2.5
Not expensive and affordable	2.9	2.7	0.8	1.8	2.1
Covered by the UC scheme	5.7	8.3	17.3	11.4	10.5
No acquaintance	0.6	2.2	0.6	1.1	1.1
Good quality	14.8	8.3	10.2	14.3	12.1
Quick service	8.1	3.4	3.6	6.2	5.4
Others	8.6	5.2	1.7	4.0	5.0
Distance between residence to selected health service facilities (median(Q1-Q3)	8(3-17)	6 (2-19)	7 (2-20)	7 (3-20)	7 (3-19)
Cost for transportation from residence to selected health service facilities (median(Q1-Q3)	20(7-50)	20 (10-40)	20 (20-50)	30 (20-50)	20 (10-50)

Perception on confidentiality

How confident the samples were on confidentiality of VCT results between public and private VCT services? The samples trusted more public than private in all regions in keeping confidential the results of their blood test, see **Table 4.5**. The proportion of people who trusted public VCT services was highest in the northeastern region (69.7%), while the proportion was lowest in the south.

Table 4.5 Trust in keeping confidential test results, public and private VCT services by region

	Percentage Central (N=760)		North (N=813)		NE (N=724)		South (N=909)		Total (N=3206)	
	Public	Private	Public	Private	Public	Private	Public	Private	Public	Private
Trust	63.7	56.2	61.5	53.4	69.7	56.5	61.2	51.6	63.7	54.2
Not trust	14.1	13.9	15.6	14.6	13.0	14.1	18.0	19.1	15.4	15.6
Not sure	22.2	29.9	22.9	32.0	17.3	29.4	20.8	29.3	20.9	30.2

3. Knowledge and perception on ART

From the general Thai population, there were 4.7 to 10.2% believed that HIV/AIDS can be cured, see **Table 4.6**.

A majority of the general Thai population, 64.3% had known about ART. Most of them, 84.9% knew that ART can prolong life, with an average of 7.1 years prolonged. However, 7.3-14.4% had no idea about the benefit of ART whereas 0.5-2.4% believed that ART can cure HIV/AIDS.

Half of the general Thai population knew about publicly funded free ART program. And that ART was mostly known to be available at MOPH regional, provincial and other public hospitals. However, some of them said that ART was available at health centers. This misunderstanding that health centers can provide VCT services is particularly common among northern Thai people (7.0%). A considerable proportion of the general Thai population had no idea where ART was available (13.9-39.4%). The highest proportion was among those live in the central region though they did know best the ART.

Table 4.6 Perception on HIV/AIDS, ART and ART program of general Thai population by region

Perception	Percentage				
	Central N=755	North N=813	Northeast N=724	South N=909	Total N=3201
AIDS is curable	4.7	6.6	5.0	10.2	6.8
Known about ART	77.0	62.5	51.5	65.6	64.3
	N=586	N=507	N=374	N=601	N=2068
Benefit of ART					
Curing AIDS	1.2	2.4	0.5	1.0	1.3
Prolong life time	86.4	87.2	83.5	82.5	84.9
Year of prolong life (mean(SD))	6.5(4.0)	7.3 (4.6)	7.8 (4.6)	7.1(5.7)	7.1(4.8)
Not prolong life time	2.0	3.2	1.6	3.3	2.6
Don't know	10.4	7.3	14.4	13.1	11.2
Known about ART program	47.5	58.7	55.1	43.5	50.4
Place where to get ART					
Residential community hospital	17.7	54.3	64.4	43.0	43.4
Non-residential community hospital	7.4	23.0	17.8	22.8	17.7
Other public hospital	24.8	29.0	23.6	35.4	28.2
Regional and provincial	36.2	24.3	44.7	62.7	40.8

Perception	Percentage				
	Central N=755	North N=813	Northeast N=724	South N=909	Total N=3201
hospital					
Health center	3.2	7.0	1.9	3.0	4.0
Private hospital	3.9	10.0	6.3	14.4	8.7
Private clinic	1.1	4.3	0.	3.4	2.5
Don't know	39.4	22.0	13.9	21.7	24.8
Others	3.2	1.7	1.4	0	1.5

4. Risk behaviors for HIV infection

This survey is a face to face interview survey of household respondents. A very low proportion of the general Thai population reported to have sex with commercial sex worker (1.6-2.9%) in the last 12 months. On average, the respondents reported having 3.0% (2.2-3.8%) non-spouse regular sex partners. The proportion who reported having extramarital sex was highest in the central region (**Table 4.7**).

Table 4.7 Percentage of the general Thai population having sex with commercial sex worker (CSW), with non-spouse regular sex partner (RSP) by region in the last 12 months

Partner	Percentage				
	Central N=760	North N=813	Northeast N=723	South N=911	Total N=3207
CSW	2.6	1.6	2.2	2.9	2.3
Number of female CSW (median (Q1-Q2))	2(1-3)	1.5 (1-2.2)	3 (2-8.8)	2(1-3.8)	2(1-3)
Number of male CSW (median (Q1-Q2))	1*	2 *	1*	0	1-1.75
RSP	3.8	3.2	2.2	2.9	3.0
Number of female RSP (median (Q1-Q2)	1(1-2)	1(1-2)	1 (1-2)	1(1-2)	1(1-2)
Number of male RSP(median (Q1-Q2)	1*	4*	1*	1(1-2)	1(1-1.5)

Note * there was only one value

Condom use when having sexes with CSW and non-spouse regular sex partners in the last year and the last sex act was asked for the respondents. Respondent reported lower use of condom with non-spouse regular sex partners than with CSW especially in the last sex act, **Table 4.8**.

Table 4.8 Percentage of condom use with commercial sex worker (CSW) and non-spouse regular sex partner (RSP) by region

Condom use	Percentage									
	Central		north		northeast		South		Total	
	CSW N=20	RSP N=30	CSW N=13	RSP N=27	CSW N=15	RSP N=16	CSW N=25	RSP N=26	CSW N=73	RSP N=99
Last year										
every time	85.0	63.3	84.6	74.1	73.3	75.0	76.0	76.9	76.3	71.7
Sometime/never	15.0	33.7	15.4	25.9	26.7	25.0	24.0	24.1	23.7	28.3
Last sexual intercourse										
Use condom	90.0	68.4	92.3	72.7*	80.0	83.3	87.5	80.8	88.7	74.7

* n=11

Among those who did not use condoms with CSW gave as reasons that condoms were not accessible and that they were completely drunken. Non use of condoms with RSP thought that there was no risk to get the infection and that condoms were not accessible, **Table 4.9**.

Table 4.9 Reasons for no condom use with commercial sex worker (CSW) and non-spouse regular sex partner (RSP) in general Thai population by region

Condom use	Number of subject									
	Central		north		northeast		South		Total	
	CSW N=2	RSP N=6	CSW N=1	RSP N=3	CSW N=3	RSP N=3	CSW N=3	RSP N=5	CSW N=9	RSP N=17
Dislike	0	0	0	0	0	0	1	2	1	2
no risk	0	3	1	1	2	3	2	1	5	8
not preventable	0	0	0	0	0	0	0	0	0	0
not accessible	1	1	0	2	0	0	0	1	1	4
waste money	0	0	0	0	0	0	0	0	0	0
unconscious	1	2	0	0	0	0	0	0	1	2
AIDS is curable	0	0	0	0	0	0	0	0	0	0
partner not agree	0	0	0	0	1	0	0	0	1	0
Others	0	0	0	0	0	0	0	1	0	1

Respondents were asked to assess their life time risk of HIV infection. Over half of the respondents (62%) believed that they have no risk to get HIV/AIDS infection **Table 4.10**. The highest proportion was reported among the northeast people. Meanwhile, only 0.7-1.3% assessed a high risk to get the infection, while 6.8-9.4% was not sure about their life time risks. Of the total respondents, 0.25% (0.3-0.6%) reported of having already infected with HIV.

Table 4.10 Life time assessment of risk for HIV infection among general Thai population by region

Life time risk level	Percentage				
	Central N=759	North N=810	northeast N=724	South N=911	Total N=3204
No risk at all	52.3	64.6	71.1	60.4	62.0
Low risk	37.8	27.3	18.8	29.2	28.4
High risk	1.3	0.7	1.0	0.9	1.0
Already infected	0.3	0.6	0.0	0.1	0.25
not sure	8.3	6.8	9.1	9.4	8.4

5. Willing to pay for voluntary counseling blood testing

Willingness to pay for VCT was solicited using double bidding method by doubling and halving of the starting point, prior to a final question on the maximum level the individual is willing to pay for. There are four starting cost of 200, 300, 500 and 800 Baht per VCT services. These starting costs were preprinted in the questionnaire and systematically randomly applied to each individual.

Sample of sequence of soliciting willingness to pay for VCT (contingent valuation methods)

1. If the price of VCT is **X Baht**, are you able and wiling to pay for this test?
   ☐ 1. Yes ☐ 2. No Skip to 3
2. If the price of VCT is double to **2X Baht**, are you able and wiling to pay for this test?
   ☐ 1. Yes Skip to 4 ☐ 2. No Skip to 4
3. If the price of VCT is cut by half to **0.5X Baht**, are you able and wiling to pay for this test?
   ☐ 1. Yes ☐ 2. No
4. The **maximum price** that you are willing to pay for VCT services is
   ☐ 1. I am wiling to pay _____ Baht
   ☐ 2. I will not test

The final question on the maximum price is the level of willingness to pay by an individual for VCT services. The survey indicated that the percentage of people willing to pay gradually decreased when the fee increased (**Table 4.11**). This is clearly shown in the poorest northeastern region, that people are most sensitive to price. The percentage of willingness to pay sharply decreased from 61.2% for the initial price of 50 Baht to 19.5% for 400 Baht; while in the Central region, the percentage of the people willing to pay decreased from 83.2 to 48.7. People in the more affluent Central region are less price-sensitive.

The median of the maximum price people are willing to pay for VCT varied according to the initial given figure, except for the northeastern people who reported 100 Baht per VCT across all levels of initial given price **Table 4.12**. Across regions, people in central affluent region were willing to pay the highest level.

6. Profile of perception and demand on VCT and ART program

The results indicate that people living in high incidence rate of HIV/AIDS perceived VCT and ever tested for HIV/AIDS, higher than people living in low incidence areas, **Table 4.13**. In addition, experiencing on VCT was reported higher in young adults aged less than or equal to 30 years old (36.4%) comparing to adults aged more than 30 years old (29.4%). However, there is no significant different between gender.

The reasons for attending VCT were varied by area, sex and age. It was remarked that almost 50% of female samples attending VCT because of pregnancy status.

There was no statistically significant difference on number of samples attending VCT last years by area, sex and age. However, people living in high incidence area (23.8%), male (21.8%) and young adults (22.7%) reported their intention for VCT services in the next year, more than the low incidence area (15.9%), female (17.9%) and adults (18.6%), respectively.

In addition, people living in the high incidence area (66.5%) were more willing to attend VCT provided in the national ART program than people living in the low incidence area (59.9%). Even though there were not much differences of acceptability of a hypothetical government policy of offering VCT to all clients in public health facilities (with an opt out choices for those who do no accept) by area, sex and age, people living in high incidence area were more likely to support this universal VCT offering policy to all medical encounters. Furthermore, they were also willing to suggest others to accept VCT.

Around 30% of the people were willing to use VCT if services are free. And, there was no statistically significant difference on willing to attend VCT either they are living in high or low incidence area, male or female and young adults or adults.

People living in high incidence area perceived antiretroviral drug more than ones living in low incidence area. And among those who know about antiretroviral drug, ones living in high incidence area also knew ART program more than ones living in low incidence area. In addition young adults also knew more than adults statistically significant.

Regarding to self assessment of life time risk of HIV infection, it is logically found that people living in high incidence area perceived that they have higher risk of infection than people living in low incidence area. Similarly, male (34.0%) and young adults (39.1%) also perceived that they have higher life-time risk than female (24.4%) and adults (25.1%), respectively.

Table 4.11 Percentage of samples willing to pay for VCT by initial given price and geographical regions

given fee (Baht)	Willing to pay for a given fee					Willing to pay for half of a given fee					Willing to pay for double of a given fee				
	Central	North	NE	South	Total	Central	North	NE	South	Total	Central	North	NE	South	Total
50	83.2 (n=155)	66.3 (n=166)	61.2 (n=152)	70.3 (n=182)	70.2 (n=655)	87.8 (n=131)	79.1 (n=110)	70.6 (n=92)	90.7 (n=129)	83.1 (n=462)	0 (n=24)	8.9 (n=56)	23.1 (n=65)	16.1 (n=56)	14.4 (n=201)
100	77.1 (n=153)	60.6 (n=175)	54.9 (n=144)	67.9 (n=193)	65.3 (n=665)	81.7 (n=120)	59.8 (n=107)	64.2 (n=81)	85.5 (n=131)	74.3 (n=439)	18.2 (n=33)	4.4 (n=68)	13.0 (n=69)	4.8 (n=62)	9.0 (n=232)
150	66.7 (n=150)	51.6 (n=159)	42.8 (n=152)	72.3 (n=177)	58.8 (n=638)	66.0 (n=100)	45.1 (n=82)	51.6 (n=64)	74.2 (n=128)	61.8 (n=374)	8.2 (n=46)	19.5 (n=77)	24.4 (n=90)	13.2 (n=53)	17.9 (n=266)
200	61.9 (n=147)	44.2 (n=154)	34.7 (n=147)	67.9 (n=184)	53.0 (n=632)	50.6 (n=91)	36.8 (n=68)	56.9 (n=51)	70.3 (n=128)	56.2 (n=338)	26.8 (n=56)	15.1 (n=86)	25.2 (n=99)	15.0 (n=60)	20.6 (n=301)
400	48.7 (n=152)	32.1 (n=159)	19.5 (n=128)	53.4 (n=174)	39.6 (n=613)	43.2 (n=74)	23.5 (n=51)	42.3 (n=26)	60.2 (n=93)	45.5 (n=244)	24.4 (n=78)	13.0 (n=108)	23.0 (n=100)	22.6 (n=84)	20.3 (n=370)
all	67.6 (n=757)	51.3 (n=813)	43.3 (n=723)	66.5 (n=910)	57.7 (n=3203)	69.2 (n=516)	53.8 (n=418)	60.5 (n=314)	77.2 (=609)	66.9 (n=1857)	18.3 (n=240)	12.7 (n=395)	22.2 (n=423)	14.9 (315)	17.1 (n=1373)

* NE stands for northeast

Table 4.12 Median and Q1-Q3 of the maximum price people willing to pay for VCT, by geographical region

Given fee (Baht)	Median of affordable fee (upper limited fee) (in Baht)				
	Central	North	NE	South	Total
50	200 (100-500) (n=129)	150 (50-300) (n=116)	100 (50-200) (n=102)	200 (100-325) (n=133)	100 (100-300) (n=480)
100	200 (200-500) (n=125)	200 (100-300) (n=110)	125 (50-200) (n=80)	200 (100-350) (n=137)	200 (100-300) (n=453)
150	300 (165-500) (n=109)	175 (100-300) (n=108)	100 (50-200) (n=95)	300 (150-500) (n=134)	200 (100-500) (n=446)
200	250 (200-500) (n=111)	200 (100-300) (n=104)	100 (50-300) (n=92)	300 (200-500) (n=138)	200 (100-500) (n=445)
400	500 (300-1000) (n=103)	400 (100-500) (n=94)	100 (50-200) (n=79)	400 (137.5-500) (n=134)	400 (100-500) (n=410)
All	300 (150-500) (n=574)	200 (100-300) (n=532)	100(50-200) (n=449)	200 (150-500) (n=676)	200 (100-450) (n=2234)

Table 4.13 Percentage of samples' perception and demand on VCT and ART program by area, sex and age

	Percentage											
	Incidence			**Sex**			**Age (in year)**			**Province**		
	High	**Low**	**p-value**	**male**	**female**	**p-value**	**<=30**	**>30**	**p-value**	**Rayong**	**Chiangmai**	**Trang**
	(n=1512)	(n=1693)		(n=1452)	(n=1750)		(n=816)	(n=2389)		(n=409)	(n=422)	(n=446)
Known about VCT	56.7	50.3	<0.001	53.6	53.1	0.780	53.4	53.3	0.965	54.0	56.6	51.7
Ever tested for HIV/AIDS	39.3	23.9	<0.001	29.6	32.5	0.071	36.4	29.4	<0.001	46.9	44.6	27.9
Reason for being tested	(n=594)	(n=405)	<0.001	(n=429)	(n=569)		(n=297)	(n=702)		(n=192)	(n=197)	(n=130)
Self-decision	13.8	11.6		17.8	9.3		8.1	15.0		14.1	10.7	11.5
Job application	12	10.4		17.3	6.8		17.2	8.8		22.4	6.1	5.4
Life insurance/cooperative	14.1	3.5		11	9		5.4	11.7		12.5	29.4	0.8
Married	4.2	4.9		6.1	3.2		4.0	4.7		4.2	4.6	3.8
Pregnancy	24.9	33.3		0	49.2		41.4	22.8		19.3	20.3	39.2
Health examination	15	15.1		20.4	11.1		8.1	17.9		9.4	14.2	24.6
Health personnel' s suggestion	2.2	1.5		2.4	1.6		0.3	2.6		1.0	2.5	1.5
Hospitalized patient	4	7.4		7.1	4.2		3.7	6.1		6.2	2.5	3.1
Blood donor	3.7	5.9		8	2.1		4.7	4.6		2.6	4.6	5.4
Others	6.1	6.4		9.9	3.5		7.1	5.8		8.3	5.1	4.6
Tested during the past year	38.1	36.8	0.68	40	35.8	0.167	43.0	35.2		39.1	34.5	39.4

	Percentage											
	Incidence			Sex			Age (in year)			Province		
	High	Low	p-value	male	female	p-value	<=30	>30	p-value	Rayong	Chiangmai	Trang
Plan to be tested next year	(n=1512)	(n=1691)	<0.001	(n=1452)	(n=1749)	0.001	(n=815)	(n=2388)	<0.001	(n=409)	(n=442)	(n=466)
Tested	23.8	15.9		21.8	17.9		22.7	18.6		23.7	22.6	23.0
Not tested	62.4	65.8		60.7	67.1		57.9	66.3		62.1	66.1	61.8
Not sure	13.8	18.3		17.5	15.0		19.4	15.1		14.2	11.3	15.2
Tested under ART program	(n=1512)	(n=1692)	<0.001	(n=1452)	(n=1750)	0.986	(n=815)	(n=2389)		(n=409)	(n=442)	(n=466)
Tested	66.5	59.9		63	63.2		66.9	61.7		61.9	59.3	73.2
Not tested	24.9	22.1		23.6	23.3		17.7	25.4		23.9	34.6	19.9
Not sure	8.6	18		13.5	13.5		15.4	12.9		14.2	6.1	6.9
Hypothetical policy offering VCT to all clients in health facilities with opt out choices for those who do not accept	(n=1502)	(n=1678)	<0.001	(n=1439)	(n=1739)	0.666	(n=806)	(n=2374)	0.887	(n=409)	(n=440)	(n=466)
Agree	92.6	87.7		89.5	90.4		90.4	89.8	n.s.	95.4	90.2	91.8
Not agree	5.3	3.6		4.7	4.1		4.2	4.5		2.9	7.7	5.4
Not sure	2.1	8.7		5.8	5.5		5.3	5.7		1.7	2.0	2.8
Willing to suggest VCT to others	81.3	77.9	0.018	79.2	79.8	0.712	80.6	79.2	0.383	74.4	77.8	87.7
	(n=402)	(n=646)		(n=474)	(n=573)		(n=213)	(n=835)		(n=101)	(n=118)	(n=105)
Willing to be tested if it is free	30.6	28.2	0.401	30.6	27.9	0.344	30.0	28.9	0.734	17.8	27.1	30.5

	Percentage										
	Incidence			Sex			Age (in year)			Province		
	High	Low	p-value	male	female	p-value	<=30	>30	p-value	Rayong	Chiangmai	Trang
	(n=1509)	(n=1683)		(n=1450)	(n=1740)		(n=813)	(n=2379)		(n=407)	(n=442)	(n=465)
Known about ARV	68.5	60.5	<0.001	64.6	64.1	0.782	68.0	63.0	0.01	79.6	67.9	65.0
	(n=1034)	(n=1018)		(n=942)	(n=1128)		(n=555)	(n=1516)		(n=325)	(n=300)	(n=303)
Known ART program	53.7	47	0.002	48.1	52.2	0.061	42.3	53.3	<0.001	54.8	64.0	43.9
Life time risk of HIV infections												
No risk at all	62	61.1	<0.001	57.8	65.5	<0.001	49.4	66.3	<0.001	48.8	64.4	66.5
Low risk	29.6	27.3		33.2	24.4		38.0	25.1		41.9	31.5	24.0
High risk	1.2	0.8		0.8	1.1		1.1	0.9		1.2	0.7	1.5
Already infected	0.2	0.2		0.2	0.3		0.1	0.3		0.5	0.4	0.0
not sure	6	10.6		8	8.7		11.3	7.4		7.6	3.0	8.0

V. Conclusion

More than 50% of Thai population knew about VCT, 31% had ever tested. The most common reason for testing is during health examination, as job requirement and self decision to know own HIV status, except in women, pregnancy is the most common reason for VCT due to a successful MOPH program for Prevention of Maternal To Child Transmission. Twenty percents of Thai population planned to take VCT next 12 months. Availability of public funded free ART program stimulates the uptake of VCT, as 63% of Thai population would take, 23.4% would not and 13.5 un-decisive.

When asked if VCT were offered free of charge by the government, 29% were willing to be tested. The preferred choice of VCT provider is district hospital in their domicile. The most common reason for the preferred choices was easy-to-access. The samples trusted more public than private in keeping confidential the results of their blood test. Thai population also had positive attitude towards a hypothetical policy of offering VCT to all patients in public sectors with a freedom of opting out for not testing, as 90% agreed with this policy.

Knowledge on ART is higher than VCT, as 64% of Thai population knew about ART, and had positive views towards ART of prolongation of life. Knowledge and attitude towards publicly funded free ART program, half of the population knew about the program.

As a nature of face to face interview, though not at the presence of other members of the household, a very low proportion of the general Thai population reported to have sex with commercial sex worker (1.6-2.9%) in the last 12 months. Condom use rate with sex workers is slightly higher than when having sex with non-spouse regular sex partners, 76% and 72% use all the time.

On willingness to pay for VCT, evidence indicates that the poorest North-eastern region, people are most sensitive to price. The percentage of willingness to pay sharply decreased when price increased. People in the more affluent Central region are less price-sensitive.

The median of the maximum price people are willing to pay for VCT varied according to the initial given figure, except for the North-eastern people who reported 100 Baht per VCT across all levels of initial given price

It should be noted that Phase III clinical trail of HIV candidate vaccines was implementing in Rayong province, one of this studied provinces. Comparing Rayong to other high incidence rate provinces, Chiangmai and Trang, there were not much differences on the perception of VCT, experiencing on VCT, testing for HIV during the past 12 months and intention of being tested in the coming year, testing under ART program, supporting testing for all health facilities clients. However, the people living in Rayong seem to know about antiretroviral drug and perceived risk more than people living in Chiangmai and Trang.

VI. Policy recommendations

Given evidence from household survey of adult population, we wish to recommend the following

1. Opportunities arise from this study to improve the quality and standardize HIV testing in private setting perhaps without counseling and not on a voluntary basis, for example as a requirement for job application, insurance application, general health examinations. These coercive testing should be discouraged and should comply with the voluntary nature with quality pre and post test counseling.
2. The PMTCT is the major venue of VCT, there is an annual 0.8 million birth cohort, while antenatal care covers more than 95% of all births, the sustaining high coverage and enrolment of PMTCT by all pregnancies would fostering prevention and safe sex behavior among the couples.
3. Opportunities also arise to improve the request for HIV testing in all clinical encounters, for example Tuberculosis and meningitis patients and suspects of HIV co-infections. Pre and post-test counseling should be provided.
4. Policy of offering free VCT to all population must be decided carefully take into account prevalence, cost of laboratory services, and long term budget impact. In a low prevalence setting, expenditure especially on HIV laboratory test would be too expensive and unaffordable, however, counseling may also cost significantly, in view of scaling up training of counselors. In addition, a variety of policy can be designed, for example, the counseling alone without testing for low and no risk and testing for the higher risk groups is more cost effective. However, this requires quantitative and full flesh study.
5. The strengths of public VCT providers in the public trust in keeping confidential the results of HIV test should be maintained. District hospital, the most preferred choice for VCT, due to easy to access (close to client services), play a significant hub in provision of quality VCT services. More than 700 functional district hospitals, covers all districts, are the strong platform for scaling up VCT.
6. Evidence indicates that the availability of publicly funded free ART program stimulate demand for VCT in general population. In the scaling up of VCT for early recruit of ART enrollee, the publicity of ART program would automatically stimulate the demand for VCT. There is a need for the national program to be prepared on supply side capacity strengthening to accommodate rapid increase in workload from VCT.

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DEMAND FOR VOLUNTARY COUNSELING AND TESTING AND ANTIRETROVIRAL TREATMENT PROGRAM AMONG SEX WORKERS IN THAILAND

I. Introduction

Timely identification of human immunodeficiency virus (HIV) infection is critical from both clinical and public health perspectives. A delay in diagnosis until late stage in the course of HIV infection is associated with irreversible immunologic damage and related complication, treatment outcome is poorer than early stage of enrolment into antiretroviral program. Early identification and quality of counseling provides the opportunity to reduce transmission of HIV through changes in risk behavior.[1 2 3]

Treatment with highly active antiretroviral therapy most likely reduces infectivity [4] and may therefore contribute to additional public health benefit by further reduction in transmission. Voluntary counseling and testing (VCT) for HIV is internationally recognized as a crucial effective and important strategy for both prevention and care. A number of researches have found VCT to be a cost-effective strategy for facilitating behavior change, and it is an important entry point for care and support for those who test positive. [5 6 7 8] These findings have boosted interest and support for VCT as a valuable component of comprehensive HIV/AIDS programming in most countries.

Thailand has been seriously affected by HIV/AIDS epidemic with an estimate 900,000 people currently infected in 2005 and an uncountable number of people being affected by the disease, giving Thailand the second-highest rate of adult HIV prevalence in Asia and the Pacific.

Among those infected, 289,000 have subsequently died from AIDS related illnesses. Bureau of Epidemiology of the Department of Disease Control of Ministry of Public Health has developed HIV sentinel surveillance system among target population since 1989 such as pregnant women at antenatal care clinic, injected drug user, blood donor, military conscript, and commercial direct and indirect sex worker, and grade 11 boys and girls in schools. The estimated adult prevalence rate of HIV in Thailand is 1.8%, with higher rates in the northern part of Thailand. The sero-sentinel consistently reported that sex workers had high prevalence, though lower than injecting drug users (IDU). The HIV prevalence in direct sex workers was peak at 33.15% in December 1994, it continuously declined to 10.87% in 2004 whereas the HIV prevalence in indirect sex workers has a small increase from 3.67% in 1994 to 4.09% in 2004.

In 2002, the Royal Thai Government (RTG) launched a large-scale expansion of public funded ART to people living with HIV/AIDS having CD4 count less than 200 cells. The policy aimed to scale up towards universal access to free ART by all eligible patients. Joint analysis by the Ministry of Public Health and the World Bank of this policy decision suggests that integration of treatment and prevention efforts is crucial to the success of the Government's policy of expanding ART. Treatment benefits can be maximized, and cost-effectiveness of ART increased, if ART is implemented in a way that "stimulate VCT and early recruitment into ART", and hence strengthens prevention efforts.

In addition to general population, understanding on the factors influencing demand for VCT and willingness to pay among specific high risk groups such as sex workers, IDU, and men who have sex with men (MSM), is therefore essential for national program manager to foster the effectiveness of ART program and prevention efforts in a synergistic way.

II. Objectives

This study aims to assess the perception on and demand for VCT and ART program among female sex workers.

III. Methodology

A cross-sectional descriptive survey was carried out between May 2005 and August 2005 among sex workers whose workplace were sauna/massage parlors, karaoke night clubs, and brothels, from 8 provinces in four regions.

In each of the four geographical regions, one province with low and one with high prevalence of HIV/AIDS infection rates were selected. Prevalence is measure by HIV infection prevalence among pregnant women from the sero-sentinel survey in June 2003, see **table 3.1**. Five top high and top low prevalence provinces were listed and one was purposively selected from the list. In the north region, Chiangmai and Tak were selected. Others include Udonthani and Kalasin in the northeast, Rayong and Prathumtani in the central, and Trang and Suratthani in the south.

Table 3.1 HIV prevalence in pregnancies, sero-sentinel 2003

Region average	Five highest prevalence	Five lowest prevalence
North 1.53%	1. Petchaboon 3.42, **2. Chiangmai 2.97** 3. Pichit 2.83 4. Uthaitani 2.59 5. Chiangrai 2.4	1. **Tak 0.94**, 2. Nakorn Sawan 0.58, 3. Nan 0.51 4. Kamphaenpetch 0.22 5. Phrae 0.00
Northeast 1.18%	1. Chaiyaphoom 2.06, 2. Amnatcharoen 1.93 3. Sisaket 1.91, **4.** Yasothorn 1.89, 5. **Udonthani 1.76**	1. Nongbualamphoo 0.69, 2. Sakhonnakorn 0.65, 3. Mahasarakham 0.64 4. **Kalasin 0.56**, 5. Surin 0.41
Central 1.36%	1. **Rayong 3.13**, 2. Chainat 3.13, 3. Angthong 2.97, 4. Lopsuri 2.03, 5. Samutprakan 1.62	1. Nonthaburi 0.85, 2. Prachinburi 0.84, 3. **Prathumtani 0.66**, 4. Nakorn Nakok 0.65, 5. Singburi 0.42
South 1.06%	1. Phuket 2.43 2. Nakorn Sithammarat 2.31 **3.** Ranong 2.11 4. **Trang 1.72** 5. Pang Ngar 1.38	1. Songkhla 0.78 2. **Suratthani 0.64** 3. Narathivat 0.50, 4. Krabi 0.34, 5. Yala 0

Source: Bureau of Epidemiology, MOPH 2003
Note: the bold province were sample province, average national prevalence 1.3%

The questionnaire includes the following parameters: demographics, knowing about VCT and self-reported history of VCT uptake, willingness to pay for VCT service, knowing about free access to ART program in Thailand and factors influencing VCT uptake, and condom use with paying clients and non-paying regular and non-regular partners. Respondents were assured of anonymity, as no identifying names or codes were noted on the questionnaire and confidentiality, as only the researchers would see their responses. The participation was completely voluntary with signed informed consent as a pre-requirement.

Descriptive statistics were used for data analysis and compared between the higher and lower HIV prevalence areas. The two categorical variables were analyzed using the chi-square statistic. An alpha level of 0.05 was used for all statistical tests.

IV. Results

1. General characteristics

Between May 2005 and August 2006, **782** female sex workers or hospitality women in entertainment establishments from 8 provinces were face to face interviewed by researchers. **Table 4.1** shows the basic socio-demographic attributes of the study population compared between high and low HIV prevalence areas.

The means age ranged from 28.3 years old to 29.24 years old. Sex workers in the lower prevalence area were slightly younger than the high prevalence area. The majority of them were single (35.3%) followed by married (24.0%). Marital status of either separated or divorced was also common among study population. Most of them had completed primary and secondary school level (45.1% and 30.4%). There were 87.2% declared that they worked as an employee in their workplaces (e.g. massage parlor, karaoke night club, brothel, etc). Distribution of monthly family income was higher among sex workers in the high prevalence area (58% had monthly income > 12,000 Baht) than sex workers in the low prevalence area (28% had monthly income > 12,000 Baht).

Table 4.1 General characteristic of sex workers by high and low HIV prevalence areas

Characteristics	**High prevalence area**		**Low prevalence area**		**Total**	
	n	**(%)**	**n**	**(%)**	**n**	**(%)**
N	408		374		782	
Age in years						
18 – 25 yrs	136	33.3%	162	43.3%	298	38.1%
26 – 35 yrs	200	49.0%	142	38.0%	342	43.7%
> 35 yrs	72	17.6%	70	18.7%	142	18.2%
Mean/ SD	29.2/7		28.3/7.9		28.8/7.4	
Min / Max	18/52		18/53		18/53	
Marital status						
Single	145	35.5%	131	35.0%	276	35.3%
Married	107	26.2%	81	21.7%	188	24.0%
Widow	21	5.1%	29	7.8%	50	6.4%
Divorce	53	13.0%	66	17.6%	119	15.2%
Separate	82	20.1%	67	17.9%	149	19.1%
Education						
No educated	25	6.1%	22	5.9%	47	6.0%
Primary grade 6/7	163	40.0%	190	50.8%	353	45.1%
2nd grade 9	127	31.1%	111	29.7%	238	30.4%
2nd grad 12 or equiv.	63	15.4%	41	11.0%	104	13.3%
Vocational school	26	6.4%	9	2.4%	35	4.5%
Bachelor or higher	4	1.0%	1	0.3%	5	0.6%
Occupation						
Private employee	375	91.9%	307	82.1%	682	87.2%
Owner business	29	7.1%	59	15.8%	88	11.3%
Employer	2	0.5%	3	0.8%	5	0.6%
Family business	2	0.5%	3	0.8%	5	0.6%
State enterprise employee			1	0.3%	1	0.1%

Corporate			1	0.3%	1	0.1%
Monthly household income						
< 3,500 Baht	7	1.7%	57	15.2%	64	8.2%
3,500 - 6,999 Baht	66	16.2%	112	29.9%	178	22.8%
7,000 - 11,999 Baht	97	23.8%	100	26.7%	197	25.2%
12,000 - 19,999 Baht	87	21.3%	52	13.9%	139	17.8%
20,000 - 29,999 Baht	77	18.9%	22	5.9%	99	12.7%
30,000 - 39,999 Baht	45	11.0%	7	1.9%	52	6.6%
40,000 - 49,999 Baht	11	2.7%	11	2.9%	22	2.8%
50,000 - 59,999 Baht	9	2.2%	3	0.8%	12	1.5%
60,000 - 79,999 Baht	5	1.2%	3	0.8%	8	1.0%
> 80,000 Baht	4	1.0%	7	1.9%	11	1.4%

2. Experiences and perception on VCT

Knowing about VCT among sex workers was higher (83.1%) in the higher than low prevalence area (65.0%). Percentages of sex workers who ever received HIV testing were also much higher (95.1% and 73.3%) in the higher prevalence area as shown in **Table 4.2.**

Reasons for having VCT among sex workers varied. The most common reason in the high prevalence area (37.0%) was stated as a requirement by the owner of workplace while the main reason in the low prevalence area was their own initiatives, wanting to know their HIV status.

Those who had HIV test in the last 12 months in high prevalence area account for 85.8% of total samples, while this was 51.9% in the low prevalence area. About 60% of them had received HIV testing more than one time in the last year. The common places sought for HIV testing differed. Having VCT at the workplace and private setting were the most common place in high prevalence area, mostly provided by mobile services of the provincial health authorities or tested through annual sero-prevalence surveys in the month of June every year. However, the public health providers such as provincial hospitals and district hospitals were the most common place for VCT among them in low prevalence area.

Of those sex workers who received VCT, 55.3% of them paid for the services. The median expenditure was 200 Baht per service in high prevalence area and 225 Baht in low prevalence area. Those who did not directly pay for HIV tests were deducted from their salary/income by their employers. When asked about what needs to be improved in the VCT service, 74.3% felt satisfied and nothing needed improvement. While 4.8% needed more affordable price for VCT and 4.6% concerned about the confidentiality issue.

Table 4.2 Experiences on VCT among sex workers by high and low HIV prevalence areas

Characteristics	High prevalence area		Low prevalence area		Total	
	n	(%)	n	(%)	n	(%)
N	408		374		782	
Knowing about VCT	339	83.1%	243	65.0%	582	74.4%
Ever received HIV testing	388	95.1%	274	73.3%	662	84.7%
Reason for HIV testing	n = 384		n = 269		n = 653	
Want to know HIV status	139	36.2%	134	49.8%	273	41.8%
Required by workplace	142	37.0%	22	8.2%	164	25.1%
Suggested by doctor	63	16.4%	60	22.3%	123	18.8%
Pregnancy	16	4.2%	30	11.2%	46	7.0%
Physical check up	23	6.0%	23	8.6%	46	7.0%
Required by insurance	2	0.5%	4	1.5%	6	0.9%
Premarital screening	2	0.5%	1	0.4%	3	0.5%
Received VCT last yr.	350	85.8%	194	51.9%	544	80.7%
Number of test last yr.	n = 350		n = 194		n = 544	
1 time	115	32.9%	100	51.5%	215	39.5%
2 time	65	18.6%	52	26.8%	117	21.5%
3 time	75	21.4%	20	10.3%	95	17.5%
4 time	74	21.1%	19	9.8%	93	17.1%
> 4 time	21	6.0%	3	1.5%	24	4.4%
Place to take last HIV testing	n = 350		n = 194		n = 544	
Working place	138	39.4%	35	18.1%	173	31.9%
Private clinic	65	18.6%	21	10.9%	86	15.8%
Regional/General hospital	26	7.4%	43	22.3%	69	12.7%
Community hospital	7	2.0%	32	16.6%	39	7.2%
Private hospital	18	5.1%	11	5.7%	29	5.3%
Other Government hospital	5	1.4%	21	10.9%	26	4.8%
Other place	91	26.0%	30	15.5%	121	22.3%
Paid for last HIV testing	n = 350		n = 194		n = 544	
Paid by herself	216	61.7%	85	43.8%	301	55.3%
Not paid	134	38.3%	109	56.2%	243	44.7%
Cost for last HIV testing						
Median / Mean	200	265.2	225	273	200	267.4
Quartiles 25 / 75	200	250	105	400	200	300
What need to improve for VCT						
Good, no comment	259	74.2%	141	74.6%	400	74.3%
Improve educational method	23	6.6%	17	9.0%	40	7.4%
Reduce cost for VCT	17	4.9%	9	4.8%	26	4.8%
Keep confidentiality	15	4.3%	10	5.3%	25	4.6%
Improve HIV attitude/Stigma	4	1.1%	7	3.7%	11	2.0%
Others	31	8.9%	5	2.6%	36	6.7%

3. Intention for VCT in the next 12 months

Intention to take VCT service in the next 12 months was much higher in sex workers from high prevalence area than low prevalence area (97.3%, 76.7%) as shown in **Table 4.3**. The main reason for receiving VCT was their involvement in sex behavior with high risk of HIV infection in both areas. Plan to take VCT service as a requirement by their employers was very common in sex workers among high prevalence area. Among those who did not plan to have VCT or were not sure yet, 36.4% of sex workers in high prevalence area stated that they had already taken VCT as the main reason while 41.2% of sex workers in low prevalence area stated that had a low risk of HIV infection. About 14.6% voiced concern that they would be discriminated if they had a HIV positive result.

When asked about their trust on public and private hospitals regarding the confidentiality of the HIV test results, they were more confident on public than private hospitals or clinics (66.1% versus 50.3%) in both areas.

Table 4.3 Intention to VCT service in next 12 months in sex workers, high and low HIV prevalence areas

Characteristics	**High prevalence area**		**Low prevalence area**		**Total**	
	n	**(%)**	**n**	**(%)**	**n**	**(%)**
Plan for VCT in 12 months	n = 408		n = 374		n = 782	
Yes	397	97.3%	287	76.7%	684	87.5%
No	5	1.2%	34	9.1%	39	5.0%
Not sure	6	1.5%	53	14.2%	59	7.5%
Reason to have VCT	n = 396		n = 287		n = 683	
Have high risk behavior	181	45.7%	191	66.6%	372	54.5%
Apply job/health insurance	136	34.3%	22	7.7%	158	23.1%
If infected, ART can help	36	9.1%	33	11.5%	69	10.1%
Prior to marriage or pregnant	8	2.0%	19	6.6%	27	4.0%
Other	35	8.8%	22	7.7%	57	8.3%
Reason to not test or not sure	n = 11		n = 85		n = 96	
Have low risk behavior	2	18.2%	35	41.2%	37	38.5%
Afraid of discrimination	1	9.1%	13	15.3%	14	14.6%
Have been tested already	4	36.4%	8	9.4%	12	12.5%
If infected, no way to treat	1	9.1%	9	10.6%	10	10.4%
Not convenient to travel			6	7.1%	6	6.3%
Have no money to pay	1	9.1%	5	5.9%	6	6.3%
Other	2	18.2%	9	10.6%	11	11.5%
Trust in keeping confidentiality						
Public hospital	n = 408		n = 374		n = 782	
Yes	284	69.6%	233	62.3%	517	66.1%
No	50	12.3%	58	15.5%	108	13.8%
Not sure	74	18.1%	83	22.2%	157	20.1%
Private hospital/clinic	n = 407		n = 374		n = 781	
Yes	222	54.5%	171	45.7%	393	50.3%
No	51	12.5%	75	20.1%	126	16.1%
Not sure	134	32.9%	128	34.2%	262	33.5%

4. Government policy offering free VCT for all clients

Samples were asked of their attitudes towards a hypothetical government policy of offering free VCT to all clients in government hospitals with a right to refuse to be tested (0pt-out). Most of sex workers (85.4%) agreed with this policy, see **Table 4.4.**

Table 4.4 Opinion on offering VCT to all clients with opt out rights by high and low HIV prevalence areas

Opinion	High prevalence area		Low prevalence area		Total	
	n	(%)	n	(%)	n	(%)
	n = 408		n = 374		n = 782	
Agree	354	86.8%	314	84.0%	668	85.4%
Not agree	28	6.9%	29	7.8%	57	7.3%
Not sure	26	6.4%	31	8.3%	57	7.3%

5. Preferred place for VCT service

Government hospital either provincial (23.6%) or district hospitals (19.2%) were the preferable places that sex workers would like to attend followed by private clinics and private hospitals, see **Table 4.5**.

Sex workers in the high prevalence area preferred to get VCT from regional or provincial hospitals followed private clinics and private hospitals while sex workers in the low prevalence area preferred to get VCT at the district hospitals followed by provincial hospitals. The most important reason for VCT venues was convenience to access followed by the quality of the laboratory and rapid result reporting.

Table 4.5 Preferred venue of VCT service by high and low HIV prevalence areas

Preferable venue for VCT	High prevalence area		Low prevalence area		Total	
	n	(%)	n	(%)	n	(%)
Place to attend VCT service	n = 407		n = 351		n = 758	
Provincial/ Regional hospital	92	22.6%	87	24.8%	179	23.6%
District hospital	20	4.9%	126	35.8%	146	19.2%
Private clinic	84	20.6%	48	13.7%	132	17.4%
Private hospital	69	17.0%	36	10.3%	105	13.9%
Other public hospital	20	4.9%	29	8.3%	49	6.5%
Other	122	30.0%	25	7.1%	147	19.4%
Reasons for venue						
Convenience for traveling	177	43.5%	165	47.0%	342	45.1%
Have a good quality LAB	54	13.3%	36	10.3%	90	11.9%
Provide a rapid result	52	12.8%	28	8.0%	80	10.6%
Familiar with the staff	34	8.4%	37	10.5%	71	9.4%
Register to use UC card	17	4.2%	33	9.4%	50	6.6%
Trust in keep confidentiality	22	5.4%	24	6.8%	46	6.1%
Able to afford for VCT cost	15	3.7%	9	2.6%	24	3.2%
Don't want to meet people who may know her	-	-	8	2.3%	8	1.1%
Other	36	8.8%	11	3.1%	47	6.2%

6. Experiences on HIV/AIDS: knowing someone closed to them

As shown in **Table 4.6**, experiences in knowing someone close to them who have HIV/AIDS were asked. More than half of them (66.8%) did not know any PHA. Among PHA whom they knew, 12.5% were neighbors and 10.6% were relatives. About 2.3% of PHA were members of their own family. Most of sex workers (88.5%) would suggest their friends and relatives to seek for VCT.

Table 4.6 Knowing HIV/AIDS (PHA) among someone closed to, by high and low HIV prevalence areas

Knowing people who have HIV/AIDS (PHA)	**High prevalence area**		**Low prevalence area**		**Total**	
	n	**(%)**	**n**	**(%)**	**n**	**(%)**
Relationship with PHA	n = 408		n = 374		n = 782	
None	257	63.0%	265	70.9%	522	66.8%
Neighbor	49	12.0%	49	13.1%	98	12.5%
Relatives	49	12.0%	34	9.1%	83	10.6%
Friend	48	11.8%	29	7.8%	77	9.8%
Members of the family	13	3.2%	5	1.3%	18	2.3%
Will suggest friends, relatives for VCT						
Yes	370	90.9%	320	85.8%	690	88.5%
No	37	9.1%	53	14.2%	90	11.5%

7. Perception and knowledge on HIV/AIDS and ART

It was interested to know that 5.4% of sex workers believed that HIV/AIDS could be totally cured, see **Table 4.7**. Sex workers in the high prevalence area had higher knowledge about ART than those in the low prevalence area (70% versus 55%). About 83.2% of them believed that ART will help to prolong their survival, 47.2% of them think that ART can help to extend their survival for another 1-5 years and 44.7% believed that it will extend their survival up to 6-10 years.

Half of them (51.6%) knew about the publicly funded free ART program. Most of them (33.7%) stated that ART is available at regional/provincial hospitals. However, 31.7% had no idea where they can get access to ART especially in the north and central regions.

Table 4.7 Knowledge and attitude on HIV/AIDS and ART among sex workers separated by high and low HIV prevalence areas

Variables	High prevalence area		Low prevalence area		Total	
	n	(%)	n	(%)	n	(%)
HIV/AIDS can be totally cured	n = 407		n = 374		n = 781	
Yes	18	4.4%	24	6.4%	42	5.4%
No	389	95.6%	350	93.6%	739	94.6%
Knowing about ART	n = 408		n = 374		n = 782	
Yes	286	70.1%	207	55.3%	493	63.0%
No	122	29.9%	167	44.7%	289	37.0%
How effective for ART	n = 286		n = 207		n = 493	
Prolong survival time	230	80.4%	180	87.0%	410	83.2%
Can be totally cured	3	1.0%	1	.5%	4	.8%
Not help to prolong survival	5	1.7%	6	2.9%	11	2.2%
Don't know	48	16.8%	20	9.7%	68	13.8%
Number of years can be prolonged by ART	n = 230		n = 179		n = 409	
1 – 5 years	92	40.0%	101	56.4%	193	47.2%
6 – 10 years	111	48.3%	72	40.2%	183	44.7%
> 10 years	27	11.7%	6	3.4%	33	8.1%
Knowing about free access to ART program by government	n = 285		n = 207		n = 492	
Yes	155	54.4%	99	47.8%	254	51.6%
No	130	45.6%	108	52.2%	238	48.4%
Place where provide free ART	n = 155		n = 97		n = 252	
Provincial/ Regional hospital	47	30.3%	38	39.2%	85	33.7%
Other public hospital; i.e., university, military.	16	10.3%	15	15.5%	31	12.3%
Private hospital	6	3.9%	7	7.2%	13	5.2%
District hospital	3	1.9%	7	7.2%	10	4.0%
Health center	8	5.2%	1	1.0%	9	3.6%
Private clinic	3	1.9%	2	2.1%	5	2.0%
Other	17	11.0%	2	2.1%	19	7.5%
Don't know	55	35.5%	25	25.8%	80	31.7%

8. Willingness to take VCT and ART

We wish to understand if free ART program generates demand for VCT among sex workers. **Table 4.8** shows that sex workers in the high prevalence area will seek VCT service if they know that HIV infected people would be eligible for free public ART program, more than sex workers in the low prevalence area.

Continuingly, if they become HIV infected, nearly all of them (97.3%) will join the free ART program. Most common reasons were that they need medical care as soon as possible followed by those who believed that AIDS treatment is effective in prolonging their survival. Among a few number of sex workers (2.4%) refused to enroll in ART program because they were afraid to disclose their HIV status to other people.

Table 4.8 Willingness to receive VCT and enroll in ART program among sex workers separated by high and low HIV prevalence areas

Willing to receive VCT/ART	**High prevalence area**		**Low prevalence area**		**Total**	
	n	**(%)**	**n**	**(%)**	**n**	**(%)**
Willing to receive VCT if ART is free	n = 408		n = 374		n = 782	
Yes	383	93.9%	313	83.7%	696	89.0%
No	9	2.2%	9	2.4%	18	2.3%
Not sure	16	3.9%	52	13.9%	68	8.7%
Willing to get ART if HIV+	n = 408		n = 373		n = 781	
Yes	398	97.5%	362	97.1%	760	97.3%
No	10	2.5%	11	2.9%	21	2.7%
Reasons to enroll in ART	n = 408		n = 373		n = 781	
Want to receive health care	281	68.9%	279	74.8%	560	71.7%
ART can prolong survival	194	47.5%	154	41.3%	348	44.6%
No cost	81	19.9%	116	31.1%	197	25.2%
Other	16	3.9%	6	1.6%	22	2.8%
Reasons not to enroll in ART	n = 408		n = 373		n = 781	
Don't want to disclose HIV status to others	9	2.2%	10	2.7%	19	2.4%
Don't think drug will help	-	-	2	0.5%	2	0.3%
Afraid of ART side effects	-	-	1	0.3%	1	0.1%
Other	3	0.7%	2	0.5%	5	0.6%

9. Risk behavior: Intravenous drug use and unsafe sex

Sex workers in the high prevalence area reported lower rate of ever use of intravenous drug injection than sex workers in the low prevalence area as shown in **Table 4.9**.

Regarding to sexual intercourse (SI) with male, in general, 86.1% reported to have SI with their male clients for money, 25.1% reported to have SI with non-regular sexual partners and 95.5% reported to have SI with their couple or regular sexual partners. Sex workers in the high prevalence area reported to have SI with their clients higher than sex workers in low prevalence area while they had SI with non regular partner much lower than sex workers in the low prevalence area.

The safe sex practice by using condom all the times with male clients were very high among sex workers in high prevalence area compared with sex workers from low prevalence areas. However, condom used was much lower when they had SI with non regular partners and regular partner in both groups. Among those who did not use condom with clients, the most common reasons were refused by clients, dislike condom, and condoms were not available when needed. While among those who did not use condom with non-regular sexual partners, the main reasons were perceived of having no risk, refused to use by partners, and could not access condom when needed. Nearly half of SI with their couple or regular sexual partners reported never use condom.

Table 4.9 IDU and condom use among sex workers by high and low HIV prevalence areas

Risk behaviors	**High prevalence area**		**Low prevalence area**		**Total**	
	n	**(%)**	**n**	**(%)**	**n**	**(%)**
IDU	n = 408		n = 374		n = 782	
Ever use injected drug	8	2.0%	26	7.0%	34	4.3%
Sexual risk behavior						
Having sex with male clients in the last 12 months	363	89.0%	310	82.9%	673	86.1%
How often to use condom	n = 363		n = 308		n = 671	
All the times	341	93.9%	253	82.1%	594	88.5%
Sometimes	20	5.5%	46	14.9%	66	9.8%
Never	2	.6%	9	2.9%	11	1.6%
Use condom for last SI	n = 363		n = 310		n = 673	
Yes	358	98.6%	282	91.0%	640	95.1%
No	5	1.4%	28	9.0%	33	4.9%
Reason not use condom	n = 5		n = 28		n = 33	
- Client refuse to use	1	20.0%	9	32.1%	10	30.3%
- Don't like condom	-	-	5	17.9%	5	15.2%
- No condom available	-	-	5	17.9%	5	15.2%
- Drunk or use of drug	-	-	3	10.7%	3	9.1%
- Have no risk	-	-	3	10.7%	3	9.1%
- Don't belief in condom	1	20.0%			1	3.0%
- AIDS is not a fearful disease			1	3.6%	1	3.0%
- Other	3	60.0%	2	7.1%	5	15.2%
Having sex with non-regular partner(s) in last 12 months	78	19.1%	118	31.6%	196	25.1%
How often to use condom	n = 78		n = 117		n = 195	
All the times	55	70.5%	76	65.0%	131	67.2%
Sometimes	12	15.4%	29	24.8%	41	21.0%
Never	11	14.1%	12	10.3%	23	11.8%
Use condom for last SI	n = 78		n = 117		n = 195	
Yes	60	76.9%	95	81.2%	155	79.5%
No	18	23.1%	22	18.8%	40	20.5%
Reason not use condom	n = 17		n = 22		n = 39	
- Have no risk	6	35.3%	3	13.6%	9	23.1%
- Partner refuse to use	4	23.5%	3	13.6%	7	17.9%
- No condom available	1	5.9%	3	13.6%	4	10.3%
- Don't like condom	-	-	3	13.6%	3	7.7%
- Drunk or use of drug	1	5.9%	1	4.5%	2	5.1%
- Can not afford	-	-	2	9.1%	2	5.1%
- Don't belief in condom	-	-	1	4.5%	1	2.6%
- Other	5	29.4%	6	27.3%	11	28.2%
Having sex with regular partner	376	92.2%	371	99.2%	747	95.5%
How often to use condom	n = 376		n = 371		n = 747	
All the times	134	35.6%	145	39.1%	279	37.3%
Sometimes	51	13.6%	75	20.2%	126	16.9%
Never	191	50.8%	151	40.7%	342	45.8%

10. Perception on risk of HIV infections

On perception of life time risk of HIV infection, 42.4% of sex workers stated that they expected to have a low risk to be infected, 21.3% expected to have a high risk and surprisingly 19.2% said that they have no chance to get infection as presented in **Table 4.10**. Only one case disclosed her HIV status to the interviewer. Sex workers in the high prevalence area perceived to have higher risk to get HIV infection than sex workers in the low prevalence area.

Table 4.10 Life time risk of HIV infection among sex workers by high and low HIV prevalence areas

Risk to get HIV infection	High prevalence area		Low prevalence area		Total	
	n	(%)	n	(%)	n	(%)
	n = 407		n = 374		n = 781	
Have no chance	63	15.5%	87	23.3%	150	19.2%
Small chance to get HIV	194	47.7%	137	36.6%	331	42.4%
High chance to get HIV	95	23.3%	71	19.0%	166	21.3%
Already infected with HIV	1	0.2%	-	-	1	0.1%
Not sure	54	13.3%	79	21.1%	133	17.0%

11. Factors associated with prior use of VCT

Having had an experience with VCT was significant associated with being over 25 years of age, being married, having higher monthly family income, knowing about ART, having sexual intercourse with male clients, see **Table 4.11**. Educational level and having sex with non regular partners did not show association with prior VCT.

Table 4.11 Characteristic of sex workers reporting prior HIV testing

Variables	Number	% Had HIV test	Crude odds ratios (95% CI)
Age			
18-25 years old	217	72.8%	1
26-35 years old	316	92.4%	4.54 (2.76,7.50)*
>35 years old	129	90.8%	3.70 (1.92,7.28)*
Educational level			
Uneducated	41	87.2%	
Primary grade 6/7	303	85.8%	
Secondary grade 9	196	82.4%	Not significant
Secondary grade 12	86	82.7%	
Vocational school	31	88.6%	
Bachelor degree	5	100.0%	
Marital status			
Single	222	80.4%	1
Married	168	89.4%	2.04 (1.14,3.68)*
Widow	45	90.0%	2.19 (0.81,7.39)
Divorce	105	88.2%	1.82 (0.93,3.61)
Separate	122	81.9%	1.10 (0.64,1.89)
Family income (month)			
<12,000 Baht	342	77.9%	1
>=12,000 Baht	320	93.3%	3.95 (2.39,6.57)*
Knowing about ART			
Yes	441	89.5%	2.61 (1.72,3.95)*
No	221	76.5%	1

Having sex with clients			
Yes	579	86.0%	1.93 (1.15,3.24)*
No	83	76.1%	1
Having sex with non-regular partners			
Yes	160	81.6%	0.74 (0.47,1.17)
No	502	85.7%	1

Note: * statistical significant

12. Factors related to the intention to seek VCT in next 12 months

As presented in **Table 4.12**, sex workers who were older than 35 years old and had monthly family income more than 12,000 Baht tended to plan for VCT in the next 12 months. Sex workers who ever got VCT and who willing to get VCT if ART is free, were also more common to plan for VCT in next twelve months. Sex workers who had sexual intercourse with clients in the last 12 months plan to have a VCT higher than those who did not have sex with clients. Sex workers who perceived that they had a low or high life time chance to be infected with HIV have a plan for VCT higher than those who perceived as no risk or not sure of their risks.

Table 4.12 Factors associated with intention to seek VCT in the next 12 months by potential determinant factors

Factors		**Plan for VCT in next 12 months**			**Total**
		Yes	**Not sure**	**No**	
Age	18-25 yrs	244 (81.9%)	39 (13.1%)	15 (5.0%)	298
	26-35 yrs	308 (90.1%)	15 (4.4%)	19 (5.6%)	342
	>35 yrs	132 (93.0%)	5 (3.5%)	5 (3.5%)	142
Family income per month	<12,000 Baht	354 (80.6%)	54 (12.3%)	31 (7.1%)	439
	>=12,000 Baht	330 (96.2%)	5 (1.5%)	8 (2.3%)	343
Educational level	No education and Primary school level	352 (88.0%)	26 (6.5%)	22 (5.5%)	400
	Secondary school level or higher	332 (86.9%)	33 (8.6%)	17 (4.5%)	382
Ever got VCT in the last 12 months	Yes	506 (94.8%)	18 (3.4%)	10 (1.9%)	534
	No	106 (82.8%)	12 (9.4%)	10 (7.8%)	128
Will get VCT if ART is free	Yes	634 (91.1%	36 (5.2%)	26 (3.7%)	696
	Not Sure	37 (54.4%	20 (29.4%)	11 (16.2%)	68
	No	13 (72.2%)	3 (16.7%)	2 (11.1%)	18
Having sex with clients in last 12 months	Yes	596 (88.6%)	49 (7.3%)	28 (4.2%)	673
	No	88 (80.7%)	10 (9.2%)	11 (10.1%)	109
Having sex with non-regular partners in last 12 months	Yes	160 (81.6%)	28 (14.3%)	8 (4.1%)	196
	No	524 (89.4%)	31 (5.3%)	31 (5.3%)	586
Chance to get HIV infection in their whole life	Have no chance	125 (83.3%)	12 (8.0%)	13 (8.7%)	150
	Small chance	301 (90.9%)	17 (5.1%)	13 (3.9%)	331
	High chance	147 (88.6%)	13 (7.8%)	6 (3.6%)	166
	Not sure	109 (82.0%)	17 (12.8%)	7 (5.3%)	133

13. Willingness to pay for VCT

Willingness to pay for VCT was solicited using double bidding method by doubling and halving of the starting point, prior to a final question on the maximum level the individual is willing to pay for. There are four starting cost of 200, 300, 500 and 800 Baht per VCT services. These starting costs were preprinted in the questionnaire and systematically randomly applied to each individual.

Sample of sequence of soliciting willingness to pay for VCT (contingent valuation methods)

1. If the price of VCT is **X Baht**, are you able and wiling to pay for this test?
   ☐ 1. Yes ☐ 2. No Skip to 3
2. If the price of VCT is double to **2X Baht**, are you able and wiling to pay for this test?
   ☐ 1. Yes Skip to 4 ☐ 2. No Skip to 4
3. If the price of VCT is cut by half to **0.5X Baht**, are you able and wiling to pay for this test?
   ☐ 1. Yes ☐ 2. No
4. The **maximum price** that you are willing to pay for VCT services is
   ☐ 1. I am wiling to pay _____ Baht
   ☐ 2. I will not test

The final question on the maximum price is the level of willingness to pay by an individual for VCT services. The survey indicated that the percentage of people willing to pay gradually decreased when the fee increased

In general, the percentage of sex workers who are willing to pay consistently decreased when the hypothetical price increased. Evidence from indicated that sex workers who belonged to higher income and higher risk of HIV infections were less sensitive to price changes than the lower income and less or no chance of HIV infections, see **Table 4.13**.

The median of maximum price that sex workers willing to pay were range between 300 Baht and 500 Baht when the hypothetical price was set at 200 Baht and 300 baht. But when starting price was set at 500 Baht and 800 Baht, the median of maximum price that sex workers willing to pay, were higher with a range of 500 Baht to 700 Baht. Among sex workers who were not willing to pay for VCT at any price set, but when VCT is given free, 78.6% of them are willing to receive VCT.

Table 4.13 Willingness to pay for VCT at different prices among sex workers by family income and perception of life time chance of HIV infection

Willingness to pay for VCT cost	**No or low chance of HIV infection**		**Not sure or high chance of HIV infection**	
	< 12,000 Baht	**>= 12,000 Baht**	**< 12,000 Baht**	**>= 12,000 Baht**
I. Start VCT cost at 200 Baht	(n = 62)	(n = 55)	(n = 47)	(n = 28)
Willing to pay for VCT	53 (85.5%)	52 (94.5%)	45 (95.7%)	27 (96.4%)
If price go up to 400 Baht	(n = 53)	(n = 52)	(n = 45)	(n = 27)
Willing to pay for VCT	33 (62.3%)	40 (76.9%)	34 (75.6%)	19 (70.4%)
If price go down to 100 Baht	(n = 8)	(n = 4)	(n = 2)	(n = 2)
Willing to pay for VCT	5 (62.5%)	1 (25.0%)	2 (100.0%)	2 (100.0%)
Maximum price willing to pay	59 / 62	52 / 55	46 / 47	28 / 28
Median price (Baht)	300 Baht	500 Baht	400 Baht	350 Baht
II. Start VCT cost at 300 Baht	(n = 60)	(n = 49)	(n = 45)	(n = 39)
Willing to pay for VCT	45 (75.0%)	46 (93.9%)	32 (71.1%)	36 (92.3%)
If price go up to 600 Baht	(n = 45)	(n = 46)	(n = 32)	(n = 36)
Willing to pay for VCT	26 (57.8%)	18 (39.1%)	23 (71.9%)	19 (52.8%)
If price go down to 150 Baht	(n = 15)	(n = 3)	(n = 13)	(n = 3)
Willing to pay for VCT	8 (53.3%)	1 (33.3%)	9 (69.2%)	3 (100.0%)
Maximum price willing to pay	51 / 60	47 / 49	45 / 45	39 / 39
Median price (Baht)	300 Baht	400 Baht	300 Baht	300 Baht
III. Start VCT cost at 500 Baht	(n =72)	(n = 54)	(n = 48)	(n = 25)
Willing to pay for VCT	48 (66.7%)	34 (63.0%)	25 (52.1%)	22 (88.0%)
If price go up to 1000 Baht	(n = 48)	(n = 34)	(n = 25)	(n = 22)
Willing to pay for VCT	27 (56.3%)	19 (55.9%)	11 (44.0%)	14 (63.6%)
If price go down to 250 Baht	(n = 24)	(n = 20)	(n = 23)	(n = 3)
Willing to pay for VCT	14 (58.3%)	15 (75.0%)	11 (47.8%)	2 (66.7%)
Maximum price willing to pay	64 / 71	53 / 54	42 / 46	24 / 25
Median price (Baht)	500 Baht	500 Baht	500 Baht	700 Baht
IV. Start VCT cost at 800 Baht	(n = 72)	(n = 57)	(n = 33)	(n = 34)
Willing to pay for VCT	37 (51.4%)	21 (36.8%)	18 (54.5%)	16 (47.1%)
If price go up to 1600 Baht	(n = 37)	(n = 21)	(n = 18)	(n = 16)
Willing to pay for VCT	15 (40.5%)	14 (66.7%)	11 (61.1%)	11 (68.8%)
If price go down to 400 Baht	(n = 35)	(n = 36)	(n = 15)	(n = 18)
Willing to pay for VCT	14 (40.0%)	20 (55.6%)	5 (33.3%)	10 (55.6%)
Maximum price willing to pay	67 / 72	55 / 57	29 / 33	33 / 34
Median price (Baht)	500 Baht	500 Baht	800 Baht	500 Baht
V. If VCT is provided free of charge	42	18	17	11
Willing to enroll in VCT	31 (73.8%)	12 (66.7%)	12 (70.6%)	10 (90.9%)

V. Conclusions

The sex workers had some experiences in knowing someone close to them who have HIV/AIDS, 12.5% were neighbours, 10.6% were relatives, 2.3% were members of their family.

High proportion of sex workers, 74% knew about VCT, 95% of them had ever tested mostly required by the workplace or their own initiatives. Very high proportion, 81% of them had tests in the last 12 months, mostly through mobile VCT at the workplace. Sex workers in higher prevalence areas had much higher proportion (97%) intended to test in the next 12 months, due to perceived high risk of infections and required by their workplaces. They have more trust in public VCT providers than public. The preferred VCT providers were provincial or district hospitals. A very high proportion of sex workers (85%) agreed with the hypothetical government policy of offering free VCT to all clients in government hospitals with a right to refuse to be tested (0pt-out).

Good knowledge on ART was revealed, 63% of them knew about ART, 83.2% believed ART helps prolong survival, half (52%) knew about the publicly funded free ART program. The availability of public funded free ART program stimulated the demand for VCT, as 89% would take VCT. Also there was positive attitude towards ART program, if they become infected, 97% would enrol in the free ART program.

When having sex with male clients in the last 12 moths, very high proportion, 89% use condoms all the time, 10% used sometime, and 2% did not use. The reasons for not using condoms confirms other studies. When having sex with not regular partners, the proportion of use condom all the time is lower (67%), used sometime (21%) and never use (12%). When having sex with regular partners, the proportion of use condom all the time is much lower (37%), used sometime (17%) and never use (46%). There is a consistent reduction in the use of condoms all the time from male clients, to non-regular partners to regular partners. In such case, there is much room for further improvement for safer sex practices through quality VCT.

The percentage of sex workers who are willing to pay consistently decreased when the hypothetical price increased, higher income and higher perceived risk of HIV infections were less sensitive to price changes than the lower income and less or no chance of HIV infections. The median maximum willingness to pay ranges

VI. Policy recommendations

Provision of an easy to access, quality VCT service, ensure confidentiality and affordable price of VCT would stimulate the rapid scaling up of VCT services and the consumption among this group who engaged in high risk occupations. Service among this group should be provided with care due to double stigmatization, first the engagement in sex business either directly or indirectly and second HIV infection. The common practice among this group is mobile services of counseling and collecting samples from the work sites and post test counseling in the work sites.

If the Thai government cannot offer free VCT to all general population due to fiscal constraint, there is a need for special considerations to provide free VCT to this group due to the positive externality of quality counseling to maintain their safe sex practices and early recruitment to ART program if very unfortunately they are infected.

However, VCT model for sex worker should emphasize on changing their sexual risk behavior and promote better safe sex practice especially with their non-regular and regular partner.

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DEMAND FOR VOLUNTARY COUNSELING AND TESTING AND ANTIRETROVIRAL TREATMENT PROGRAM AMONG INJECTING DRUG USERS IN THAILAND

I. Introduction

AIDS remains a complex and critical concern not only to individuals, families and the communities, it is a human security issues, due to its devastating nature of morbidity and mortality especially in sub-saharan African countries and some others in Asia Pacific region. Estimates show that since the start of the epidemic, around 60 million people have been infected with HIV, 20 million have died globally.

The rate of new HIV infections continues to increase every year, with an estimated 4.9 million people having been infected in the 12 months ending 2004 (AIDS epidemic update, Geneva, UNAIDS, 2004). While the bulk of new infection are due to unsafe sexual behavior, the use of contaminated injection equipment among injecting drug users (IDU) continues to fuel the pandemic, particularly in Eastern Europe, Central, South and South–East Asia and Latin America.

The sharing of syringes and needles is associated with HIV transmission among IDU since the beginning of the HIV/AIDS pandemic in the 1980s. Factors that lead to sharing needle and syringes are often a consequence of a lack of perceived risk for HIV infection, group norms and rituals, inaccessibility of clean injecting equipment, and the inability to carry injecting equipment due to family, social or legal environment.

Drug addict individuals suffer from social stigma. In Thailand, the situation is exacerbated by an increasing TB among HIV patients. TB is historically one of the stigma diseases due to the people perception of potential spread. As a consequence, IDU remain distant and pose a big challenge to the health sector to integrate prevention and treatment of HIV. The use of illicit drugs in Thailand slightly increase after the government policy to crack down illicit drugs in 2003, especially in heroin, opium and methamphetamine, (Office of Nacotic Control Board, 2005).

Voluntary Counseling and Testing (VCT) is an entry point for individuals to reveal, on a voluntary basis, their HIV status. Early detection of HIV status is a foundation for early enrolment to the universal publicly funded antiretroviral therapy (ART) program launched in Thailand in 2003. VCT is a voluntary and confidential process by which a client chooses to be tested for HIV for various reasons (e.g. perceived risk, recommended by doctors and pregnancy). It includes a comprehensive range of pre-test counseling, HIV testing, and post-test counseling for both negative and HIV-positive persons.

Early recruitment to ART program, not only ensure better health outcome of treatment, quality counseling would foster protective behaviour among the HIV negative members, thus a spill-over effect on the prevention of HIV transmission.

II. Objectives

This study aims to assess the perception on and demand for VCT and ART program among IDU, through the assessment of self reported history, perception and experiences towards VCT, their demand profile and factors associated with demand for VCT and ART

III. Methodology

This cross-sectional study was conducted between May to August 2005, at the time when the government still enforced a policy on cracking down illicit drug. This had major impact on this study, IDU members felt insecure of being prosecuted.

There is no clear sampling frame for IDU. The researchers, having involved in IDU studies for several years, built up and familiar with IDU communities. We decided to apply purposive multiple sites where ample number of cases are available. In the north region, Chiangmai province was selected, and cases were identified from the communtiy. In central region, Bangkok and Prathumtani province were selected and cases were IDU in Drug Treatment Center. In the south region, Surattani, Trang and Satun provinces were selected, and cases were identified from community.

The inclusion criteria for case selection includes the following (1) either current or ex-users of injecting drug, (2) had ever or never taken VCT services, (3) not a member of ART Program, (4) wiiling to co-operative in this study. Samples who were willing to participate in this study were verbally informed thoroughly on the objective and methods of the study, and signed the informed consent, with a clear statement of confidentiality and anonymity undertaking by researchers.

Selected samples were face to face interviewed using a structured questionnaire. The questionnaire solicit the folliwng information such as demographic, knowledge and experience with VCT, experience of relatives and family members who are HIV/AIDS, willingness to pay for VCT, experience of drugs used and sex behaviour.

The questionnaire was developed by the research team, tested for content validity by five experts and pretested by interviews with 30 IDU samples from the south and Bangkok. This study was approved by Ethics Committee of Ministry of Public Health.

IV. Results

1. General Characteristics

The total 188 IDU samples from the MOPH Drug Treatment Centre in Bangkok and Pratumtani province were willing to participate and recruited into this study. Another set of 173 IDU samples identified from rural community in Chiangmai, Surat thani, Trang and Satun. The total numbers of IDU participated in this study from all sites were **361**.

Of the total 361 sample, 93% were male, most of them, 70% had primary school or lower level achievement. The average age of our samples was 35.5 year, 40% were married and 35% were employee, 32% had household income between 3500 – 6999 baht per month. Around one thirds were employee and 17% unemployed, see **table 1**.

Table 1 General characteristic of samples

Variables	Area		cases	
	Urban (N=188)	Rural (n=173)	Total (N=361)	percent
Gender				
• Male	167	167	134	92.5
• Female	21	6	27	7.5
Education				

• Illiterate	4	10	14	3.9
• 1ry school grade 6 or 7	47	68	115	31.8
• 1ry school grade 9	68	55	123	34.1
• 2nd school grade 12 or equivalent	57	29	86	23.8
• Undergraduate	12	9	21	5.8
• Post graduate	0	2	2	0.5
Marital Status				
• Single	63	75	138	38.2
• Married	85	59	144	39.9
• Divorced/ Separate	17	28	45	12.4
• Widow, widower	23	11	34	9.4
Occupation (n = 301)				
• Employee	63	64	127	35.2
• Self employed	69	39	108	26.9
• Unemployment	40	20	60	16.6
• Home employment	4	38	42	11.6
• Employer	0	4	4	1.1
• Government sector / State enterprise	12	6	18	5.0
• Co-operative	0	2	2	0.05
Household incomes (baht per month)				
• No income				3.3
• < 3500	11	69	80	22.9
• 3500 – 6999	51	61	112	32.1
• 7000 – 11999	57	25	82	23.5
• 12000 – 19999	27	7	34	9.7
• More than 20000	33	8	41	11.7

2. Experiences and perception on VCT

A high proportion of samples knew about VCT, 74%. Almost 80% had ever been tested for HIV. Some common reasons for testing HIV were their desire to know their own HIV status, 31%, and advised by health workers, 28%. Surprisingly 8% were blood donors who should not donate blood according to guidelines stipulated by the national blood centre. In the last 12 months, 72% reported having tested for HIV/AIDS. Not surprisingly that IDU groups were tested for their HIV status in the Drug Treatment Center or other research projects related to IDU free of charges. This is the most common providers for VCT, 68% and followed by district hospitals, 17% (**Table 2**). For tests in the last year, 85% were free of charge.

Table 2 experiences and perception on VCT

Variables	Area		cases	
	Urban (N=188)	Rural (n=173)	Total N=361)	percent
Ever know about VCT				
• Yes	156	112	268	74.2
• No	32	61	93	25.8
Ever been tested for HIV?				
• Yes	179	109	288	79.8
• No	9	64	73	20.2
Reasons for ever test (n=288)				

• Wanted to know own HIV status	56	55	111	30.7
• Required for employment	0	3	3	0.8
• Required by insurance applications	0	2	2	0.5
• Prior to marriage	0	0	0	0
• Pregnancy	1	4	5	1.3
• Health examination	1	17	18	5.0
• Advised by health workers	98	2	100	27.7
• Tests during treatment for other purposes	3	15	18	5.0
• Donating blood	0	4	4	1.1
• Others	20	8	28	7.7
Blood testing for HIV, last 12 months, n = 288				
• Yes	139	70	209	72.3
• No	26	54	79	27.7
Provider of last test in last 12 months, n = 209				
• District Hospitals	0	35	35	16.8
• Provincial Hospitals	1	5	6	2.9
• Other public Hospital; i.e., University Hospital	9	6	15	7.2
• Private Hospitals	1	5	6	2.9
• Private clinics	0	4	4	1.9
• Drug Treatment Center/research projects	128	15	143	68.3
Payment for VCT last year (n=209)				
• Yes	6	26	32	15.4
• No	133	44	177	84.6

3. Experiences on the use of illicit injecting drugs

On type of illicit injecting drugs used by this group, 55.1% reported they used heroin injection, 3.3% injected amphetamine and 17.2% used both heroin and amphetamine. The other drugs included Diazepam, Medazolam (Dormicum®) and Metampheatamine, see **Table 3**

Table 3 Type of illicit drug used by sample IDU

Variables	Area			cases
	Urban (N=188)	Rural (n=173)	Total N=361)	percent
Type of illicit injecting drugs (n=361)				
• Heroin only	103	96	199	55.1
• Opium only	1	3	4	0
• Amphetamine only	13	49	62	3.3
• Other only	18	10	28	0
• More than one illicit (41.6 %)				
1. Heroin+opium	0	0	0	1.1
2. Heroin+opium+amphetamine	0	1	1	1.4
3. Heroin+opium+amphetamine+others	2	2	4	2.8
4. Opium+amphetamine+others	0	0	0	0
5. Amphetamine+others	2	2	4	1.4
6. Heroin+amphetamine	5	5	10	17.2
7. Heroin +others	0	0	0	7.7
8. Heroin+opium+others	24	10	34	0.8
9. Heroin+amphetamine+others	3	0	3	9.4

10. Opium+amphetamine	2	10	12	0.3

4. Intention for VCT in the next 12 months

When probed for intention to take up VCT in the next 12 months, less than half of the samples (44%) planned to do so. This is because their perceived high risk of HIV infections (48%). For those who planned not to test next 12 month, the main reasons were being tested and no need for re-tests, and perceived no risk of HIV infection. There were 10% worried about the stigmatization related to use of VCT that discouraged them to take up VCT.

In our samples, 40 cases of IDU (20%) reported that they were infected with HIV already. For VCT services in the next 12 months, the most preferred providers were quoted as Drug Treatment Centre and district hospitals. Alarmingly, interviews revealed that 69% of IDU had ever been sharing needles with their peers, see **Table 4**.

Keeping confidentiality of test results is one of the most important domains of quality VCT. Our IDU samples trusted more in public VCT providers to keep their test results confidential (66%) than private providers (44%).

Table 4 Plan for blood testing in the next 12 months

variables	Area		cases	
	Urban (N=188)	Rural (n=173)	Total N=361)	percent
Plan for blood testing in next 12 months (n=361)				
• Yes	106	52	158	43.7
• No	69	72	141	39.1
• Not sure	13	49	62	17.2
Reasons for VCT (n=158)				
• Perceived risk of infection	44	31	75	47.5
• Comply with employment or insurance application requirement	0	3	3	1.9
• Prior to mnarriage or during pregnancy	0	2	2	1.3
• Heard that AIDS can be treated and can prolong life	4	14	18	11.4
• Others	51	9	60	38.0
Reasons for not VCT (n = 203)				
• I have no risk	25	27	52	25.6
• I have difficulties to get access to a VCT	0	1	1	0.5
• I am not able to pay for blood testing	0	7	7	3.4
• I heard that AIDS cannot be treated and I would be suffer to know the HIV status	2	7	9	4.4
• I have tested and there is no need to retest	27	45	72	35.5
• I am worry about the stigmatization	3	19	22	10.8
• Others : already got HIV positive	17	23	40	19.7
Preferred providers for VCT (n=322)				
• District Hospitals where you live	4	77	81	22.4
• Other district hospital	0	4	4	1.1
• Provincial Hospitals	47	23	70	19.4
• Other public Hospital; i.e., University Hospital	8	28	36	9.9
• Private Hospitals	14	16	30	8.3

• Private clinics	7	14	21	5.8
• Drug Treatment Center or other research project	68	12	80	22.2
Ever sharing syringes and needles with others				
• Yes	103	147	250	69.2
• No	70	41	111	30.8
Trust in keeping confidentiality				
Public hospital				
• Yes	121	112	233	65.5
• No	28	23	51	14.1
• Not sure	24	53	77	21.3
Private hospital/clinic				
• Yes	84	75	159	44.0
• No	25	38	63	14.4
• Not sure	64	75	139	38.5

5. Experiences on HIV/AIDS: knowing someone closed to them

As shown in **Table 5**, experiences in knowing someone close to them who have HIV/AIDS were probed. About 37% of them did not know anyone who was PHA. Among PHA whom they knew, 50% were their friends, 13% were neighbors and 13% were close relatives. About 8% of PHA whom they knew were members of their own family.

Table 5 Knowing HIV/AIDS (PHA) among someone closed to

Knowing people who have HIV/AIDS (PHA)	Area		cases	
	Urban(N=188)	Rural (n=173)	Total N=361)	percent
Relationship with PHA				
• None	70	63	133	36.8
• Friends	95	87	182	50.4
• Neighbour	7	41	48	13.3
• Relatives	5	40	45	12.5
• Family members	5	24	29	8.0

6. Willingness to take VCT and ART

Table 6 indicated that 85% of our samples knew about ART, a majority of them, 81% knew that ART could prolong life of people living with HIV/AIDS, while 15% did not know. A vast majority of them, 76% knew that the government had implemented a public funded free ART program. In the case that free ART program funded by the government was available, a vast majority of them, 83% would be willing to receive VCT. This clearly indicated that availability of public funded free ART would stimulate demand for VCT.

Table 6 Willingness to receive VCT and enroll in ART program

Variables	Area		cases	
	Urban (N=188)	Rural (n=173)	Total N=361)	percent
Knowing about ART				
• Yes	160	145	305	84.5
• No	13	43	56	15.5

How effective for ART				
• Can be totally cure	0	1	1	0.3
• Prolong life	136	110	246	80.7
• Not help prolong life	8	3	11	3.6
• Don't know	15	31	47	15.4
Knowing about free access to ART program by government				
• Yes	118	114	232	76.1
• No	42	31	73	23.9
Willing to receive VCT if free ART is available				
• Yes	154	144	298	82.5
• No	17	15	32	8.9
• Not sure	2	29	31	8.6

7. Willingness to pay for VCT

The current charges for VCT service was 200 Baht, this excluded test for CD4 level. VCT including tests for CD4 were free for all HIV positive individuals once they were enrolled into the ART program. The government subsidized the whole range of services including monitoring the CD4, viral load tests, drug resistance tests and all national regimens of anti-retroviral drugs. It is important to solicit the willingness to pay for VCT among IDU group especially in the phase prior to enrollment to ART program.

Willingness to pay for VCT was solicited using double bidding method by doubling and halving of the starting point, prior to a final question on the maximum level the individual is willing to pay for. There are four starting cost of 200, 300, 500 and 800 Baht per VCT services. These starting costs were preprinted in the questionnaire and systematically randomly applied to each individual.

Sample of sequence of soliciting willingness to pay for VCT (contingent valuation methods)

1. If the price of VCT is **X Baht**, are you able and wiling to pay for this test?
   ☐ 1. Yes ☐ 2. No Skip to 3
2. If the price of VCT is double to **2X Baht**, are you able and wiling to pay for this test?
   ☐ 1. Yes Skip to 4 ☐ 2. No Skip to 4
3. If the price of VCT is cut by half to **0.5X Baht**, are you able and wiling to pay for this test?
   ☐ 1. Yes ☐ 2. No
4. The **maximum price** that you are willing to pay for VCT services is
   ☐ 1. I am wiling to pay _____ Baht
   ☐ 2. I will not test

The final question on the maximum price is the level of willingness to pay by an individual for VCT services.

When a hypothetical fee of 200 baht per VCT service was posed, 79% were willing to pay for VCT. The percent willingness to pay for VCT at 300 Baht, 500 Baht and 800 Baht slightly decreased to 76%, 64% and 62% respectively, See **Table 7**. The range of willingness to pay was 100 to 1000 baht, with a median of 200 to 400 Baht per test, see **Table 8.**

Table 7 Willingness to pay for VCT services at various hypothetical prices

	Hypothetical price of VCT

	200 Baht (n=92)	300 Baht (n=91)	500 Baht (n=89)	800 Baht (n=89)
Willingness to pay for VCT				
• Yes	79%	76%	64%	62%
• No	21%	24%	36%	38%
Total	100%	100%	100%	100%

Table 8 Maximum level of willingness to pay for VCT services

Hypothetical price of VCT	Willingness to pay for VCT, Baht per service				
	Mean, median	sd	Q1	Q2	Q3
200 Baht (n=73)	300, 200	267.5	100	200	400
300 Baht (n=69)	396, 300	298.8	150	300	500
500 Baht (n=57)	426, 250	520.0	100	250	500
800 Baht (n=55)	530, 400	485.1	200	400	1,000

8. Sex behaviour

Table 9 Self risk assessment of HIV infection, by sharing needles

	Sharing needles		
	Yes	No	Total
• No, impossible	12%	9%	10%
• Some chance	50%	21%	35%
• High chance	18%	22%	20%
• I know or think that I am already infected	14%	29%	22%
• Not sure	5%	20%	12%
Total N	173	188	361

IDU samples were asked for self assessment of their life time risk of HIV infection. We classified their self assessment by status of sharing syringes and needles, see **Table 9**.

Interestingly, among 173 samples who shared, 50% said they have some chance, and 18% high chance of infection, and 14% said they might have infected already. Among 188 samples who reported not sharing needles, smaller proportion reported that they had some chance, 21%, and high chance 22% and 29% said they might have infected. There is a large room for counseling to correct the mis-understanding among this group, that there is almost 100% chance of HIV infection through sharing of needles and direct transmission of the virus if their peers were HIV positive.

Table 10 Condom used when having sex

	Areas		Cases	
	Urban (N=188)	Rural (n=173)	Total N=361)	percent
During the last 12 month, when you had sex with sex workers, did you use condom? (n=102)				
• I used condom every time	23	56	79	77.4
• I used condom sometimes	1	20	21	20.6
• I have never used condom	1	1	2	0.2
In your last sex with commercial sex worker, did you use condom? (n=102)				

• Yes, I used condom	22	66	88	86.3
• No, I did not use condom	3	11	14	13.7
During the last 12 months, when you had sex with others who are neither commercial sex workers nor your lovers, did you use condom? (n=125)				
• I used condom every time	25	37	62	49.6
• I used condom sometimes	13	27	40	32.0
• I have never used condom	10	13	23	18.4

Table 10 reported use of condom among IDU. When having sex with sex workers in the last 12 months, most of the IDU samples, 77% reported using condoms everytime, while 21% used sometimes. However, in the last sex with sex workers, a vast majority of them 86% reported having used condom, while 14% did not. When having sex with others who were neither sex workes nor regular partners in the past 12 months, only 50% reported use of condom everytime, 32% used sometimes and 18% did not use.

Table 11 Reasons of not using condom

Variables	Area		
	Urban	Rural	Total
Reasons for last sex with sex workers (n=14)			
• I don't like	1	5	6
• No chance of HIV infection	0	1	1
• Cannot buy a condom	0	2	2
• Unconscious	1	3	4
• A spouse don't like condom	1	0	1
• Others			
Reasons for last sex relation with others (n=45)			
• I don't like	1	6	7
• No chance of HIV infection	5	8	13
• Cannot buy a condom	4	1	5
• I have no money to buy condom	1	0	1
• Not in condition to use condom, e.g. drunk	4	8	12
• My partner does not like condom	1	1	2

Reasons for those who did not use condom when having sex with sex workers and others varied. Poor attitudes of little chance of HIV infections are the main cause of excuses, see **Table 11**

V. Discussions and policy recommendations

Half of IDU samples knew their friends were HIV infected, 13% were their neighbors and 13% were close relatives, 8% were members of their own family. In addition, 20% of IDU samples reported they were already infected with HIV.

These experiences coupled with being IDU, they should have very high awareness of HIV infection, but very disappointing evidence reveals that our samples are still at risk of HIV infection either transmit virus to and from others. Very high proportion, 69% of IDU reported sharing needles with their peers. And also practice unsafe sex, as only 50% used condoms when having sex with non-commercial sex workers and non regular partners, and 14% not using condom when have sex with commercial sex workers.

Sharing syringes and needles, and unsafe sex practices are the main route of HIV transmission, and that policy and national program efforts should be given to penetrate into this specific group of high risk population. Drug treatment centre providing Methadone services are the most important entry point for integrating effective VCT services, as trust is already very high for services provided by public sector. Intention to VCT services is high, 44% would take up VCT in the next 12 months and preferred providers are drug treatment centre and district hospitals. Opportunity is there to integrate VCT services in drug treatment centre.

High proportion of samples (85%) knew about ART and had positive attitude that ART would prolong their life if infected. Also vast majority, 76% knew about public funded free ART program is available. The availability of free ART program stimulates their demand for VCT.

Willingness to pay for VCT is price sensitive, the higher the price the lower the willingness to pay for. The range of willingness to pay was 100 to 1,000 baht, with a median of 200 to 400 Baht per test.

Based on the survey results, we wish to recommend the following

1. This high risk population should be informed of their HIV status through VCT, and counseling should aim to modify their behavior by not sharing syringes and needles and safe sex practice.
2. VCT services should be an integral part of Drug Treatment Centres, or available in all district hospitals where IDU would easily access.
3. Due to positive externality in the reduction of HIV transmission, VCT services for IDU should be provided free and subsidized by the government .

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DEMAND FOR VOLUNTARY COUNSELING AND TESTING AND ANTIRETROVIRAL TREATMENT PROGRAM AMONG MEN WHO HAVE SEX WITH MEN IN THAILAND

I. Introduction

Thailand has achieved remarkable reductions in population-based transmission of HIV over the past 10 years. While the HIV epidemic appears to be under control in Thailand, its resulting illness burden is such that AIDS is now the first leading cause of premature death and burden of diseases. The national HIV/AIDS program addresses the challenge of caring for the increasingly large numbers of people with symptomatic HIV disease. The government is aware of the need to implement an efficient, equitable and financially sustainable strategy for providing treatment and care to increasingly large numbers of people with late-stage HIV/AIDS and decided to launch a large-scale expansion of publicly funded provision of antiretroviral treatment (ART) to patients with HIV/AIDS in 2002 and aimed to achieve universal access subsequently. The program is called National Access to Antiretroviral Programs for PLWHA --NAPHA, implemented by the Ministry of Public Health aims to increase accessibility to selected regimes of ARV through the extensive geographical network of public health system.

A recent study by the Ministry of Public Health and the World Bank suggests that integration of treatment and prevention efforts is critical to the success of the Government policy of expanding ART. Treatment benefits can be maximized, and cost-effectiveness of ART increased, if ART is implemented in a way that stimulates voluntary counseling and testing (VCT) not only for the early recruitment into ART and maximize health outcome, quality VCT also strengthens prevention efforts.

This research suggests that institutional arrangements to support the expansion of ART need to be adequately designed so as to integrate prevention and treatment. Thailand VCT system is a strategic lynchpin to this effort. However, the system remains one of the least studied and understood parts of HIV/AIDS program.

For many years, there was virtually scarce understanding about men who have sex with men (MSM) in relation to HIV/AIDS. Recent efforts to fill this gap have confirmed that certain MSM populations have alarmingly high HIV prevalence rate[1]. In Thailand, sero-sentinel in certain provinces indicated high HIV prevalence among this group, it increased from 9.6% in 2001[2] to 17% in 2003[3]. Due to stigmatization and lack of specific policy and interventions to this target group, infection tends to increase worldwide[4].

Similar to IDU, MSM is a special group of high risk of HIV infection due to unsafe sex. Understanding the perception on VCT and ART among this group would help program managers to design better and effective universal ART program.

II. Objectives

This study aims to assess the perception on and demand for VCT and ART program among MSM, through the assessment of self reported history, perception and experiences towards VCT, their demand profile and factors associated with demand for VCT and ART

III. Methodology

This cross-sectional study was conducted in 3 regions, the north, the south and the central regions between May and August 2005. One province was purposively selected from each of the three regions. Two hundred and ninety eight MSM who worked or clients of entertainment establishments, such as night clubs, massage parlors and karaoke, were selected to respond to a face to face questionnaire interview by trained interviewers. For anonymity this study decided not to disclose the names of the sample province.

The respondents agreed with the study on a voluntary basis, and had signed a consent form ensuring anonymity and confidentiality. Data entry was done using the Scan Devet commercial computerized program. The data on general characteristics, perception, knowledge and behaviors related to VCT, willing to pay for VCT, ART and risk to HIV infection was under gone descriptive statistical analysis for mean, standard deviation and percentage. Chi –square test was applied to test association of factors and demand for VCT using STATA version 9.1.

IV. Results

1. General Characteristics

Two hundred and twenty eight MSM were questionnaire interviewed, of which 114 persons were from the Central, 102 from the North and 82 persons were from the South. Their age ranged from 16 to 50 years old with an average of 23.8 years (S.D. 5.8), see **Table 1**. Most of these MSM were in the age group of 21- 30 (61.7 percent) followed by 29.8 percent in the younger than 20 year. The 21-30 age groups were the highest across all regions (46.8-68.2 %). However, MSM in the South was older than in other region of which about 15 percent was older than 30 years old.

In term of education, majority of them across all regions had reached secondary school level. Almost 30 percent of the respondents in the South finished at least bachelor degree.

For marital status, majority of them were single, from 65.7 % in the North to 91 % in the South. However, almost 30 percent of MSM in the North were married. Nearly all of them were employee (91%). As for family income, a quarter of the respondents have income between 7,000-11,999 Baht. When compared among regions, majority of respondents from the North came from a lower income group: 3,500-6,999 Baht (36.3 %), in contrast, quite high percentage of respondents from the Central had higher income (12,000-19,999 Baht: 21.9 %, 20,000-29,999 Baht: 21.1 %).

Table 1 General characteristics of MSM by region

Demographic Characteristics	**North (N=102)**		**Central (N=114)**		**South (N=82)**		**Total (N=298)**	
	N	%	N	%	N	%	N	%
Age								
Mean (SD)	22.5	(4.1)	23.3	(4.8)	26.7	(6.3)	23.8	(5.3)
Median (Min: Max)	22	17:50	22.5	16:35	25	16:45	23	16: 50
Age group								
≤ 20	34	33.4	42	36.8	13	15.8	89	29.8
21- 30	66	46.8	62	54.3	56	68.2	184	61.7
31- 40	1	0.9	10	8.7	9	10.9	20	6.8
≥ 40	1	0.9	0	0	4	4.8	5	1.7
Education								
Illiterate	16	15.6	2	1.7	1	1.2	19	6.4
Primary school	21	20.5	20	17.5	13	15.8	54	18.1
Secondary school	31	30.3	43	37.7	27	32.9	101	33.8

High school or equivalence	27	26.4	35	30.7	22	26.8	84	28.2
Bachelor degree	5	4.9	10	8.7	14	17.1	29	9.7
Master degree	2	1.9	4	3.5	5	11.3	11	3.7
Marital status								
Single	67	65.7	91	79.8	75	91.4	233	78.9
Married	27	26.4	61	14.1	4	4.8	47	15.8
Widow	0	0	0	0	1	1.2	1	0.3
Divorce	2	1.9	2	1.7	1	1.2	5	1.7
Separate	6	5.8	4	3.5	1	1.2	11	3.6
Other …..	0	0	1	0.9	0	0	1	0.3
Occupation								
Employer	0	0	0	0	2	2.4	2	0.70
Owned business	0	0	8	7.1	2	2.4	10	3.4
Family business	0	0	5	4.4	0	0	5	1.7
Government employee	0	0	1	0.9	0	0	1	0.3
State enterprise	0	0	0	0	2	2.4	2	0.7
Employee	102	100	96	84.9	73	89.2	271	91.2
Other	0	0	3	2.7	3	3.6	6	2.0
Total	102	100	113	100	82	100	297	100
Families income								
< 3,500	12	11.7	1	0.9	5	6.1	18	6.1
3,500- 6,999	37	36.3	11	9.6	21	25.6	69	23.2
7,000 - 11,999	24	23.6	26	23.8	27	32.9	77	25.9
12,000 - 19,999	21	20.6	25	21.9	15	18.3	61	20.6
20,000 - 29,999	7	6.9	24	21.1	6	7.3	37	12.4
30,000 – 39,999	1	0.9	13	11.4	3	3.7	17	5.7
40,000 – 49,999	0	0	3	2.6	4	4.9	7	2.4
50,000 – 59,999	0	0	3	2.6	1	1.2	4	1.3
60,000 – 79,999	0	0	2	1.7	0	0	2	0.7
> 80,000	0	0	5	4.4	0	0	5	1.7
Total	102	100	113	100	82	100	297	100

2. Experiences and perception on VCT

Most of the respondent knew about VCT (67.1 %) (see **Table 2**). Among the regions, the northern region had the highest percentage of MSM who had knowledge of VCT (70.6%). More than half of the total respondents (58.7%) had ever tested for HIV/AIDS. However, there were quite large differences among regions, i.e. 70.6 % in the South, 52.6 % in the North and 42.7 % in the Central had ever tested for HIV/AIDS.

MSM who had done HIV test, on average (45%) did it by their own intention to know the HIV status, 32% did because it was a requirement when applied for jobs. More than 63 % of the respondents in the North did because it was required by the workplace which was about 5-10 times higher than those from the other two regions.

Overall, 78% of the respondents had blood test during the last 12 months. During the last 12 months, more than half (53.7%) of MSM had paid for VCT services. However, 70.9 percent of those in the North got free VCT services. The fee ranged from 300 to 1,500 Baht with the median of 400 Baht. About three quarter of MSM (76%) satisfied with VCT services, they were good and no need for improvement.

Table 2 Knowledge and Experience on VCT and HIV Test

Knowledge and Experience on VCT, HIV test	North (N=102)		Central (N=114)		South (N=82)		All	
	N	%	N	%	N	%	N	%
Knowing about VCT								
Yes	72	70.6	71	62.3	57	69.5	200	67.1
No	30	29.4	43	37.7	25	30.5	98	32.9
Total	102	100	114	100	82	100	298	100
Experience in HIV blood tested								
Yes	72	70.6	68	59.6	35	42.7	175	58.7
No	30	29.4	46	40.4	47	57.3	123	41.3
Total	102	100	114	100	82	100	298	100
Reason for HIV test								
By own intension	20	27.8	41	62.1	17	48.6	78	45.3
Apply a job	46	63.9	4	6.1	5	14.3	55	32.0
Apply for life insurance	0	0	0	0	0	0	0	0
Before marriage	1	1.4	1	1.5	0	0	2	1.2
During pregnancy	0	0	0	0	0	0	0	0
Medical checkup	1	0.9	10	15.2	8	47.1	19	11.0
Advice form health personnel	1	1.4	0	0	0	0	1	0.6
When admitted in hospital	0	0	1	1.5	1	2.9	1	0.6
Blood donation	0	0	2	3.0	0	0	2	1.2
Other …	3	4.2	7	10.6	4	11.4	14	8.1
Total	72	100	66	100	35	100	172	100
Blood test during the last 12 months								
No	10	13.9	14	20.9	14	40.0	38	21.8
Yes	62	86.1	53	79.1	21	60.0	136	78.2
Total	72	100	67	100	35	100	174	100
Mean (SD)	1.9	1.1	2.3	2.1	2.5	1.7	2.2	1.6
Median (Min:max)	2	1:5	1	1:12	2	1:7	2	1:12
Place for blood test during the last 12 months								
Community hospital	3	4.8	11	20.7	4	19.1	18	13.2
Province, regional hospital	0	0	1	1.9	2	9.5	3	2.2
University hospital	3	4.8	12	22.7	2	9.5	17	12.2
Private hospital	5	8.1	10	18.9	9	42.8	24	17.5
Clinic	6	9.7	12	22.7	4	19.1	22	16.2
Work place	20	32.3	2	3.7	0	0	22	16.7
Other……	25	40.3	5	9.4	0	0	30	22.0
Total	62	100	53	100	21	100	136	100
Expense for blood test during the last 12 months								
No	44	70.9	14	26.4	5	23.8	63	46.3
Yes	18	29.1	39	73.6	16	76.2	73	53.7
Total	62	100	53	100	21	100	136	100
Mean (SD)	369.4	190.6	416.5	309.4	493.7	197.4	412.6	262.8
Median (Min:Max)	300	80:700	400	30:1500	500	200:900	400	30:1500
Q1-Q3	270-500		200-500		350-550		300-500	
Improvement for VCT service								

Good, no need to improve	54	87.1	34	64.2	16	76.2	104	76.8
Improve								
Price	0	0	1	1.9	3	14.2	4	2.8
Stigma from health worker	1	1.6	2	3.8	0	0	3	2.2
Health education	3	4.8	6	11.3	1	4.8	10	7.3
Keep secret	0	0	2	3.7	0	0	2	1.4
Other…..	4	6.5	8	15.1	1	4.8	13	9.5
Total	62	100	53	100	21	100	136	100

3. Intention for VCT in the next 12 months

More than three quarters (78%) of MSM planned to take VCT in the next 12 months (see **Table 3**). Reasons to take VCT in the future were mostly on their risk behavior for HIV infections (56.6 %) and for job application (21.3%). About half of MSM in the north will take VCT for applying for a job (48.4 percent). Those who will not or not sure to take VCT in next 12 months gave the reasons of having no risk behavior (41.5%), 18.5% were fear for stigmatization and 9.2% were afraid they might not be able to accept or solve their problems if they were HIV infected.

More respondents trusted health personnel in pubic sector in keeping confidential the results of HIV test, than personnel in private sector (66.1% versus 55.7%). Almost 60% of MSM in the central had no trust or not sure on the confidentiality of test results in private sector.

Table 3 Intension to take VCT in next 12 Months

Intension to get VCT Within the next 12 months	**North (N=102)**		**Central (N=114)**		**South (N=82)**		**All**	
	N	**%**	**N**	**%**	**N**	**%**	**N**	**%**
Plan to take VCT in next 12 months								
Yes	89	87.3	90	78.9	54	65.8	233	78.2
No	9	8.8	8	7.1	8	9.8	25	8.4
Not sure	4	3.9	16	14.0	20	24.4	40	13.4
Total	102	100	114	100	82	100	298	100
Reason to take VCT								
Risk behavior	40	44.9	55	61.1	37	68.5	132	56.6
Job application/ life insurance/ group and cooperative	44	48.4	2	2.2	4	7.1	50	21.3
Before marriage	0	0	6	6.7	2	3.7	8	3.4
AIDS can be cure	1	1.1	8	8.9	5	9.3	14	6.1
Other….	5	5.6	28	31.1	8	14.8	41	17.6
Reason for not test or not sure								
No risk for HIV	5	38.5	15	62.5	7	25.0	27	41.5
Far from hospital	0	0	0	0	4	14.3	4	6.2
Have no money	0	0	1	4.2	0	0	1	1.5
Cannot accept, fear about the problem if HIV+,	0	0	0	0	6	21.4	6	9.2
Have been tested before	1	7.7	1	4.2	2	7.1	4	6.2
Fear of stigma	1	7.7	4	16.7	7	25.0	12	18.5
Other…..	6	46.2	3	12.5	2	7.1	11	16.9
Trust in keeping confidentiality								

Public sector								
Trust	68	66.7	73	64.1	56	68.3	197	66.1
No trust	18	17.7	20	17.5	11	13.4	49	16.4
Not sure	16	15.6	21	18.4	15	18.3	52	17.5
Total	102	100	114	100	82	100	298	100
Private sector								
Trust	63	61.8	49	42.9	54	65.8	166	55.7
No trust	19	18.6	24	21.1	8	9.7	51	17.1
Not sure	20	19.6	41	36.0	20	24.5	81	27.2
Total	102	100	114	100	82	100	238	100

4. Experiences on HIV/AIDS: knowing someone closed to them

4.1 Direct Experiences with PHLA

Knowing HIV/AIDS among someone close to MSM, 62% of the respondents did not know anyone infected with HIV/AIDS, 22% had friends with HIV/AIDS, and 10.7% had their relatives who are HIV/AIDS (see **Table 4**). About 35% of MSM in the South had friends who had HIV/ AIDS

Table 4 Knowing HIV/AIDS (PHA) among someone closed to

Variable	North (N=102)		Central (N=114)		South (N=82)		All	
	N	%	N	%	N	%	N	%
Knew PHLA								
No	71	69.6	71	62.3	45	54.8	187	62.7
Family member	0	0	3	2.6	4	4.9	7	2.3
Relative	9	8.8	15	13.2	8	9.8	32	10.7
Friend	12	11.7	26	22.8	29	35.4	67	22.5
Neighborhood	16	15.7	12	10.5	1	1.2	29	9.7

4.2 Perception and knowledge on HIV/AIDS and ART

About 5 up to 15.8% of MSM in all regions still believed that AIDS is curable as shown in **Table 5**. Almost three quarters of these MSM knew about ART. It was interesting that the North had the lowest rate among three regions of MSM knowing about ART (65.7%). More than 80% of respondents believed that ART could help extended survival time.

They thought ART can extend the survival from 1 to 30 years with the median of 6 years. More than half of these MSM did not know about free ART program especially those from the central region (60.6%). Almost 40% of these MSM did not know the places where free ART services were provided whereas the same proportion of 24% knew said that community and university hospital provided free ART.

Table 5 Knowledge and attitude on HIV/AIDS and ART among MSM

Variable	North (N=102)		Central (N=114)		South (N=82)		Total	
	N	%	N	%	N	%	N	%
AIDS is curable								
Yes	5	4.9	18	15.8	4	4.9	27	9.1
No	97	95.1	96	84.2	78	95.1	271	90.9
Total	102	100	114	100	82	100	298	100
Know about ART								

Yes	67	65.7	93	81.6	55	67.1	215	72.2
No	35	34.3	21	18.4	27	32.9	83	27.8
Total	102	100	114	100	82	100	298	100
Effectiveness of ART								
Cured	1	1.5	0	0	2	3.6	3	1.4
Prolong survival Time	63	94.0	68	73.1	45	81.9	176	81.8
Number of years can be prolonged by ART								
Mean (SD)	8.4	5.3	7.1	4.8	6.3	4.1	7.4	4.8
Median (Min:Max)	10	1: 30	5	1:25	5	1:20	6	1:30
Could not prolong survival time	0	0	3	3.2	6	10.9	9	4.2
Do not know	3	4.5	22	23.7	2	3.6	27	12.6
Total	67	100	93	100	55	100	215	100
Known of free ART program								
Know	33	49.3	37	39.4	30	54.5	100	46.3
Did not know	34	50.7	56	60.6	25	45.5	115	53.7
Total	67	100	93	100	55	100	215	100
Place providing free ART								
District hospital in own district	6	18.2	8	21.6	10	33.3	24	24.0
Other district hospitals	6	18.2	4	10.8	1	3.3	11	11.0
Other public hospitals	6	5.8	13	35.1	5	16.7	24	24.0
Provincial hospital	2	6.1	7	18.9	4	13.3	13	13.0
Primary care unit or health centre	0	0	3	8.1	4	13.3	7	7.0
Private hospital	2	6.1	4	10.8	2	6.8	8	8.00
Private clinic	1	3.0	2	5.4	2	6.8	5	5.00
Do not know	15	45.5	13	35.1	9	30.0	37	37.0
Other …..	4	12.1	1	2.7	1	3.3	6	6

4.3 Willingness to take VCT and ART

We wish to understand if free ART program generates demand for VCT among sex workers. If publicly fund free ART program were available, 86.2% of MSM across three regions would take VCT, however it was the lowest in the South 78.1%. Among those who intended to get ART if they were HIV positive, their common reasons were that they needed treatment (58.1 %), ART can prolong survival (35.9 %) and it was free of charge (23.2%), see **Table 6.** This evidence indicates that free public funded ART program would stimulate demand for VCT among this group.

Table 6 Intension to take VCT if publicly funded free ART program is available

	North (N=102)		Central(N=114)		South (N=82)		Total	
	N	%	N	%	N	%	N	%
Intention to get VCT If free ART is available								
Yes	89	87.3	104	91.2	64	78.1	257	86.2
No	12	11.8	6	5.3	7	8.5	25	8.4
Not sure	1	0.9	4	3.5	11	13.4	16	5.4
Total	102	100	114	100	82	100	298	100
Intension to enroll ART if HIV+								

Yes								
need health care	49	48.1	70	61.4	54	65.8	173	58.1
Free	29	28.4	30	26.3	10	12.2	69	23.2
Prolong survival	47	46.1	46	40.4	14	17.1	107	35.9
Other	5	4.9	13	11.4	2	2.4	20	6.7
No								
Don't want to disclose	6	5.9	3	2.6	7	8.5	16	5.4
Afraid of ART side effect	0	0	2	1.7	0	0	2	0.6
Don't think ART will help	1	0.9	1	0.8	0	0	2	0.6
Other ……	5	4.9	4	3.5	4	4.8	13	4.4

5. Risk Behavior

5.1 Illicit Drug Use

Less than 5% of the respondent had used illicit drug injection. However the proportion of illicit drug in the south was the highest among three regions (7.3%), see **Table 7.**

Table 7 Use of illicit drugs

Risk Behavior	North (N=102)		Central(N=114)		South(N=82)		Total	
	N	%	N	%	N	%	N	%
Injecting illicit drugs								
Yes	2	1.9	4	3.5	6	7.3	12	4.1
No	100	98.1	110	96.5	76	92.7	286	95.9
Total	102	100	114	100	82	100	298	100

5.2 Practice of unsafe sex

As shown in **Table 8**, 88 % of the respondents said they had sexual intercourse (SI) with male partners during the last 12 month. About one forth (25.9%) seldom used condoms, and 2.3 % did not use condom at all. Reasons for not using condoms were, 20.7% thought they had no chance to get HIV infection and the same percentage said condoms were not available, 13.8 % did not want to use condom, and the same percentage said they were not fully control themselves e.g. drunk and were using illicit drug.

Table 8 Sex with men

Risk Behavior	North (N=102)		Central(N=114)		South(N=82)		Total	
	N	%	N	%	N	%	N	%
Sex with men during the last 12 months								
No	15	14.7	15	13.2	6	7.3	36	12.1
Yes	87	85.3	99	86.8	76	92.7	262	87.9
Total	102	100	114	100	82	100	298	100
Mean and SD if yes								
Mean (SD)	68.9	108.2	43.2	58.5	62.6	102.6	57.4	91.8
Median (Min:Max)	20	1:500	20	1:305	25	1:600	20	1:600
Condom used								
Always	67	77.0	70	70.7	51	67.1	188	71.8
Seldom	18	20.7	26	26.3	24	31.6	68	25.9
Not used	2	2.3	3	3.0	1	1.3	6	2.3
Total	87	100	99	100	76	100	262	100
Condom used for last								

SI with men								
Yes	82	94.3	86	86.9	65	85.5	233	88.9
No	5	5.7	13	13.1	11	14.5	29	11.1
Total	87	100	99	100	76	100	262	100
Reasons for not using condom								
Did not want to use	1	20.0	0	0	3	27.2	4	13.8
Perceived of no chance to get infected	1	20.0	4	30.7	1	9.1	6	20.7
Could not access to condom	1	20.0	3	23.1	2	18.2	6	20.7
Not fully control themselves (Drunk, illicit drug used)	0	0	3	23.1	1	9.1	4	13.8
AIDS could be cured	0	0	0	0	0	0	0	0
Partner refused condom	1	20.0	0	0	2	18.2	3	10.3
Other	1	20.0	3	23.1	2	18.2	6	20.7
Total	5	100	13	100	11	100	29	100

Half of the respondents had sexual intercourse (SI) with women during the last 12 months. This was highest in the north (75.5%) followed by the central region (56.2%). Less than half of the respondent always used condom (44.3%), whereas 38.3% seldom used and 17.3% did not use at all. In the north region, there were the highest proportion of the respondents who seldom and not use condom (70.2 %) compared with other regions, see **Table 9**.

This group of MSM usually had sex with girl friends (51.7%) and wife or regular partners (43.6%). About forty percent of the respondents did not use condom during the last sexual intercourse. Common reasons for not using condom was did not want to use 20.7% and not perceived the chance of getting infection 19.6%.

Table 9 Sex with women

Risk Behavior	North (N=102)		Central (N=114)		South (N=82)		All	
	N	%	N	%	N	%	N	%
Sex with female during the last 12 months								
No	25	24.5	50	43.8	74	90.2	149	50
Yes	77	75.5	64	56.2	8	9.8	149	50
Total	102	100	114	100	82	100	298	100
Number of sexual intercourse								
Mean (SD)	27	97.7	20.8	35.3	5.1	6.2	23.3	73.9
Median (Min:Max)	5	1:800	4	1:192	3	1:20	4	1:800
Condom used(if yes)								
Always	23	29.8	36	56.3	7	87.5	66	44.3
Seldom	37	48.1	19	29.7	1	12.5	57	38.3
No used	17	22.1	9	16.8	0	0	26	17.4
Total	77	100	64	100	8	100	149	100
To whom that having sex with								
Wife or partner	45	58.4	19	29.7	1	12.5	65	43.6
Friend	27	35.6	9	14.1	3	37.5	39	26.2
Girl friend	40	51.9	32	50	5	62.5	77	51.7
Female prostitute	14	18.2	9	14.1	0	0	23	15.4
Other	24	31.2	22	34.4	1	12.5	47	31.5
Condom used during the								

last sexual intercourse with female								
Yes	40	51.9	41	64.1	7	78.5	88	59.1
No	37	36.3	23	35.9	1	12.5	61	40.9
Total	77	100	64	100	8	100	149	100
Reasons for not using condom								
Did not want to use	6	16.2	7	30.4	0	0	13	21.3
Thought that they had no chance to get infected	5	13.5	7	30.4	0	0	12	19.6
Could not access to condom	3	8.1	1	4.3	0	0	4	6.6
Not fully control themselves (Drunk or illicit drug used)	1	2.7	1	4.3	1	100	3	4.9
Partner refused to use	2	5.4	1	4.3	0	0	3	4.9
Other	20	54.1	6	26.3	0	0	26	42.7
Total	37	100	23	100	1	100	61	100

5.3 Perceived on Risk to be infected with HIV

Regarding the perception of MSM on their life time risk to get HIV infection, almost half (45.7%) thought they had low risk, 29.5% perceived of having high risk whereas 13.1% stated that they had no chance to get HIV infection, See **table 10.** In our interviewed MSM, 32 cases (10.7%) reported they know they had infected with HIV/AIDS.

Table 10 Perceived on life time risk for HIV infections

Perceived risk to get HIV infection	North (N=102)		Central (N=114)		South (N=82)		All	
	N	%	N	%	N	%	N	%
Have no chance	15	14.7	12	10.5	12	14.7	39	13.1
Small chance	55	53.9	43	37.8	38	46.3	136	45.7
High chance	29	28.5	40	35.1	19	23.2	88	29.5
Already HIV positive	0	0	1	0.8	2	2.4	3	1.0
Not sure	3	2.9	18	15.8	11	13.4	32	10.7
Total	102	100	114	100	82	100	298	100

6. Willingness to pay for VCT

Willingness to pay for VCT was solicited using double bidding methods by doubling and halving of the starting point, prior to a final question on the maximum level the individual is willing to pay for. There are six starting cost of 200, 300, 400, 500, 600 and 800 Baht per VCT services. These starting costs were preprinted in the questionnaire and systematically randomly applied to each individual.

Sample of sequence of soliciting willingness to pay for VCT (contingent valuation methods)

1. If the price of VCT is **X Baht**, are you able and wiling to pay for this test?
   ☐ 1. Yes ☐ 2. No Skip to 3
2. If the price of VCT is double to **2X Baht**, are you able and wiling to pay for this test?
   ☐ 1. Yes Skip to 4 ☐ 2. No Skip to 4
3. If the price of VCT is cut by half to **0.5X Baht**, are you able and wiling to pay for this test?
   ☐ 1. Yes ☐ 2. No
4. The **maximum price** that you are willing to pay for VCT services is
   ☐ 1. I am wiling to pay _____ Baht
   ☐ 2. I will not test

The final question on the maximum price is the level of willingness to pay by an individual for VCT services. The survey indicated that the percentage of people willing to pay gradually decreased when the fee increased

Among 214 respondents who were willing to pay for 6 randomly starting price of VCT services, 31.7% were willing to pay 200 Baht per service, 25.7 % for 300 Baht and 23.9 %for 500 Baht, See **table 11.**

Table 11 Fee which the MSM were willing to pay for VCT service

Fee for VCT which willing to pay (Baht)	Yes		No	
	N	%	N	%
200	68	31.7	8	9.8
300	55	25.7	18	21.8
400	0	0	1	1.2
500	51	23.9	23	28.1
600	0	0	1	1.3
800	40	18.7	31	37.8
Total	214	100	82	100

The highest numbers of MSM (72.2%) were wiling to pay for VCT if the fee was 200 Baht. Those who were not willing to pay for 200 Baht, when price reduced by half, 100 Baht, 49% would be willing to pay for 100 Baht. Among those who were willing to pay for 200 Baht, when the price increased by double, to 400 Baht, only 54.9% were willing to pay for this double price.

The Maximum price for VCT, which all 102 MSM willing to pay ranged 30 to 8000 Baht with a median of 500 Baht per service, and Q1 – Q 3 of 300 – 1,000 Baht, see **Table 12**. In this table, we did not demonstrate the whole set of hypothetical prices for VCT services.

Table 12 Willingness to pay by MSM to take VCT with a hypothetical fee of 200 Baht per service

Variable	North (N=102)		Central (N=114)		South (N=82)		All	
	N	%	N	%	N	%	N	%
If VCT charge at 200 baht, willingness to pay								
Yes	68	66.7	90	78.9	57	69.5	215	72.2
No	34	33.3	24	21.1	25	30.5	83	27.8
Total	102	100	114	100	82	100	298	100
If VCT charge decreased to 100 baht, willingness to pay								
Yes	15	44.1	15	62.5	11	44.0	41	49.4
No	19	55.9	9	37.5	14	56.0	42	50.6
Total	34	100	24	100	25	100	83	100
If VCT charge increased to 400 bath, willingness to pay								
Yes	35	51.4	52	57.8	31	54.4	118	54.9
No	33	48.6	38	42.2	26	45.6	97	45.1
Total	68	100	90	100	57	100	215	72.1
Maximum charge which willing to pay for blood test								
Mean (SD)	756.2	1022.7	774.1	720.6	695.3	548.7	747.8	798.8
Median (Min:Max)	50	100:8000	500	30:5000	500	30:3000	500	30:8000
Q1-Q3	300 -8000		300 -1000		300-1000		300-1000	

7. Factors associated with prior use of VCT

7.1 Factor associated with prior experience on VCT

We found that when controlled for other variables, age and VCT was strongly significant associated (p=0.01). MSM who are older than 40 years had 1.7 times more likely to get VCT when compared with the age not more than 20 year old (95% CI = 0.1-20.3). Furthermore, association was found among income, marital status and MSN had sexual intercourse with female (p=0.000, p=0.02, p=0.000 respectively), see **table 13**.

Table 13 Logistic regression of factors associated with getting VCT

Variable	N	%	OR (crude)	OR(adjust)	95%CI	p-value
Region						
North	72	34.2	1	1		0.12
Central	68	38.2	1.6	1.4	0.7,2.7	
South	35	27.6	3.2	2.6	1.2,5.6	
Age groups						
≤ 20 yrs.	89	29.8	1	1		0.01
21- 30 yrs.	184	61.7	0.5	0.4	0.2,0.8	
31-40 yrs.	20	6.8	0.2	0.2	0.06,0.9	
≥ 40 yrs.	5	1.7	3.5	1.7	0.1,20.3	
Education						
Illiterate	19	6.4	1	1		
Primary school	54	18.1	4.2	1.8	0.4,8.0	0.3
Secondary school	101	33.8	4.2	1.9	0.4,8.1	
High school	84	28.2	3.8	1.9	0.4,8.1	
Certificate	29	9.7	4.9	2.1	0.4,10.1	
Bachelor degree	11	3.7	1.2	0.6	0.07,5.4	
Marital status						
Single	233	78.9	1	1		0.02
Married	47	15.8	0.3	0.3	0.1,0.8	
Divorce	5	1.7	0.8	1.1	0.1,7.1	
Separate	11	3.6	0.4	0.9	0.2,4.1	
Occupation						
Owner business	10	3.1	1	1		0.2
Family business	5	1.7	1.7	0.3	0.16,2.7	
Employee	271	91.2	1.1	0.4	0.6,3.4	
Other	6	2.0	0.5	0.2	0.01,2.6	
Income						
< 3,500	18	6.1	1	1		0.00
3,500- 6,999	69	23.2	0.6	5.1	0.24,1.1	
7,000 - 11,999	77	25.9	0.5	3.0	0.17,5.5	
12,000 - 19,999	61	20.6	0.3	2.0	0.12,3.6	
20,000 - 29,999	37	12.4	0.4	1.4	0.7,2.4	
30,000 – 39,999	17	5.7	0.6	2.0	0.11,3.6	
40,000 – 49,999	7	2.4	0.5	2.3	0.12,4.7	
> 50,000	11	3.7	0.7	1.02	0.2,3.7	
Illegal drug used.						
No	286	95.9	1	1		0.5
Yes	12	4.1	1.1	1.4	0.54,4.9	
Known ARV						
No	83	27.9	1	1		0.09
Yes	215	72.1	0.8	0.9	0.5,1.7	

Had sex with male						
No	36	12.1	1	1		0.08
Yes	262	87.9	0.7	1.6	0.8,3.4	
Had sex with female						
No	149	50	1	1		0.000
Yes	149	50	0.2	0.3	0.2,0.5	

7.2 Factors associated with future intention to take VCT

Factors statistically associated with intention for future use of VCT were marital status (p = 0.05), occupation (p= 0.05), place for getting VCT (p<0.001), had sexual intercourse with men (p = 0.05) had sexual intercourse with female (p<0.001) and free blood test (p<0.001) were strongly deference, see **Table 14**.

Table 14 Factor Associated with intension to take VCT in the future.

Variables	Yes	No	Not sure	P-value
Age groups years				
≤ 20	69(77.5)	8(8.9)	12(13.4)	0.3
21- 30	147(79.9)	12(6.5)	25(13.6)	
31-40	13(65.0)	4(20.0)	3(15.0)	
≥ 40	4(80.0)	1(20.0)	0	
Education				0.1
Illiterate	19(100)	0	0	
Primary school	44(81.5)	2(3.7)	8(14.8)	
Secondary school	78(77.2)	7(7.0)	16(15.8)	
High school	58(69.2)	13(15.4)	13(15.4)	
Certificate	25(86.2)	2(6.9)	2(6.9)	
Bachelor degree	9(81.8)	1(9.1)	1(9.1)	
Marital status				0.05
Single	174(74.7)	24(10.3)	35(15.0)	
Married	42(89.4)	1(2.1)	4(8.5)	
Divorce	4(80.0)	0	1(20)	
Separate	11(100)	0	0	
Occupation				
Employer	0	2(100)	0	0.05
Owner business	8(80.0)	1(10.0)	1(10.0)	
Family business	2(40.0)	2(40.0)	1(20.0)	
Employee	216(79.7)	19(7.1)	36(13.2)	
Illegal drug used.				0.2
Yes	8(66.6)	2(16.6)	2(16.8)	
No	225 (78.7)	23(8.1)	38(13.2)	
Place for blood test				0.000
Community hospital with living	41(68.3)	5(8.3)	14(23.4)	
Other community hospital	4(57.1)	2(28.6)	1(14.3)	
Government hospital such as university, municipal hospital	36(90)	0	4(10)	
Province, regional hospital	15(88.2)	1(2.9)	1(2.9)	
Private hospital	49(80.3)	5(8.2)	7(11.5)	
Private clinic	44(77.2)	7(12.3)	6(10.5)	
Keep secrets form government				0.4
Yes believe	159(80.7)	13(6.6)	25(12.7)	
Not believe	36(73.5)	5(10.2)	8(16.3)	
Not sure	38(73.0)	7(13.5)	7(13.5)	
Keep confidential by private hospital				

Yes believe	136(82.0)	15(9.0)	15(9.0)	0.08
Not believe	38(74.5)	2(3.9)	11(21.5)	
Not sure	59(72.8)	8(8.9)	14(17.3)	
Sex with male				0.05
Yes	204(77.8)	21(8.1)	37(14.1)	
No	29(80.6)	4(11.1)	3(8.3)	
Sex with female and condom used				0.003
Always used	57(86.4)	3(4.5)	6(9.1)	
Sometime	52(91.3)	2(3.5)	3(5.2)	
None	23(88.5)	2(7.7)	1(3.8)	
Free for blood test				0.000
Test	18(69.2)	6(23.1)	2(7.7)	
Not test	2(25.0)	3(35.5)	3(35.5)	

V. Conclusions

Access to MSM in order to assess the magnitude of their problem and appropriate policy interventions remains a problem. They are special closed group and diversified within group such as male sex worker, gay men, men who have sex with both men and women. Our samples are MSM who work as employee and clients in entertainment centres.

We found that in Thailand, the highest proportion of them aged between 20 to 30 years old (61.7%) and mostly were educated at secondary school level (33.8%). Their knowledge of HIV and AIDS were quite high. However, only about 70% of them were using condom when had sex with men and even lower when having sex with women (44.3%). In addition, reasons for not using condom were that they did not want to use, or could not access to condoms, or they thought they had no risk of infections.

Less than 70% of them knew about VCT while 72.1% were aware of ART, and want to enroll in ART program if they were infected. Almost 80% of MSM intended to take VCT services in the next 12 months for the reasons of having high risk (56.6%). Some MSM will not take VCT for fear of stigmatization, especially in the South, this is as high as 25%.

MSM were willing to pay up to 800 baht (median of 500 baht). Consequently, the public funded free ART program results in intension among MSM to take VCT, as solutions were now available (the ART program) after knowing their HIV status. We found that older MSM were more likely to take VCT than the younger group. Association was found among income, marital status and MSN had sexual intercourse with female with intension to get VCT.

Experience from the fieldwork with this group, furnishes specific considerations for this group

1. Health authorities should address specific sex practices and behavior that is at risk of HIV infections and provides specific services and commodities to minimize risks. For examples, complaints were made on the leakage of condoms when having anal sex. Very often that MSM demands special condom for anal sex.
2. Provision of information on VCT and ART services is essential to create proper understanding and intention for enrolment. In addition, quality counseling would ensure safe sex practices.
3. Attitude towards the use and the availability of condom are most important among this group.
4. Health education such as, HIV prevention, use of condom, VCT and ARV program should be available and easily accessed by this specific group. Responsible provincial health officers are in strong positions to work with this group.
5. Ensure supportive social environment in favor of the provision of appropriate HIV/AIDS services to this group who are most at risk.

VI. Policy recommendations

Government policy, health education program should concertedly aim towards minimizing sex behaviors that are at risk of HIV infection. Efforts should be given to empower the MSM to know their own HIV status through the use of VCT services. If they are not yet infected, counseling to keep on safe sex practices. If some of them are infected of HIV, early enrolment into ART program, for early intervention of ARV, through regular monitoring of CD4 counts. Special attention of ART program is to provide counseling and sex behaviour changes HIV positive who are on ARV in order to prevention infections to their sex partners.

If the Thai government cannot provided free VCT to all population, this sub-group of high risk MSM should be provided with free VCT due to its high risk of HIV transmission and positive externalities from quality VCT. Not only minimum financial barriers to VCT, the confidentiality should be well aware of in the design of the program.

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